THE NORTH-WESTERN

MEDICAL AND SURGICAL JOURNAL.

NEW SERIES.

VOL II. AUGUST, 1853. No. 4.

ORIGINAL COMMUNICATIONS.

ART. I.—*Milksickness*; by SAMUEL THOMPSON, M. D. Read before the Æsculapian Society, Lawrenceville, May 1853.

I MUST request from the society a lenient judgment on this paper, as till a few days back, various circumstances had driven from my memory the fact, that I was appointed to write a paper on this subject.

Much has already been written on the cause of this disease, nevertheless, I believe, we are yet very far from being unanimous in our views. Indeed, all reasoning thereon which has hitherto been presented, appears to have been, either upon analogy, upon popular belief, or, worse still, upon the assumption, that because one fact followed another assumed fact, the sequence was a consequence. Perhaps, in the present stage of our knowledge, we shall not gain much by discussions on the remote cause of this disease; at any rate, in this paper, I shall not spend much time upon it. The pathological conditions have a more immediate bearing upon our practice, and to them I shall therefore chiefly direct my remarks. Symptoms are the signs of disease; by them we classify and define. What, then, are the symptoms or distinctive signs by which we shall know this affection? It is undoubtedly true, that most diseases give rise to effects, which we call symptoms, only *after* such diseases have been in operation some time, or so long,

at least, as to have produced derangement of one or more of the functions of health; but it would appear, that the time during which the disease, called milksickness, is in a state of nascency, is longer than that of most diseases, or, at least, longer than what has, as yet, been perceived, in reference to the majority of the ailments to which the human frame is subject. According to popular belief, a man may suffer from tires, or slows, as they are commonly called, for weeks, and even months, and sometimes the threatening disease is never developed, or, in other words, the powers of nature, either by themselves, or by the aid of medicinal stimulus, remove the cause, and the patient recovers his previous health. These *tires* constitute, then, the first symptoms of the disease. But it will be well to define what is meant by the term *tires*. As I have repeatedly heard it explained, it consists in a gradually increasing lassitude, an inability for exertion, a sensation as if the feet and legs were loaded, or the will had lost its power to give energetic motion to them; after a time any muscular efforts give rise to dyspnœa, and sometimes to severe palpitation of the heart. The skin is at times profusely moist, at other times dry and disposed to be cool. The appetite is capricious, occasionally there is nausea. The intellect feels dull. The shades and various combinations of these symptoms, of course, differ in different individuals and in different attacks, even in the same individual; sometimes these symptoms are noticed for only a few days, at other times for weeks, months, and even for more than one season, before the distinctive features of the disease show themselves. These last are often brought on suddenly by some unusual effort, especially if made on a warm sultry day; then, perhaps, the patient suddenly feels himself unable to accomplish what he has begun. Vomiting occurs; as a general rule, the alvine discharges, which, before this, have been for some time irregular in quantity and quality, are now pretty much suspended; in some cases the most obstinate constipation exists. During the first day or two, there is *generally* a little heat of skin, but it rarely lasts longer than this, and during the rest of the attack the integuments are rather dry and cool (not cold). The pulse varying, perhaps, from 80 to 100, rarely exceeding this, and in most cases continuing, from day to day at the same number of beats; its impulse rather

slow and laboring, but always very excitable, so that a judgment, based upon the condition of the pulse when you first went to the bedside, or after the patient had been talking, or vomiting, or using any exertion whatever, would sadly mislead the observer. The breath is in most cases horribly fœted, the tongue moist but furred a little down the centre. There is mostly some head-ache, whilst in a large majority of cases, sooner or later, the pupils of the eyes become dilated and a little amenable to the stimulus of light. The hand placed on the abdomen, will feel the aorta heavily pulsating, an indescribable despondency and misery seems to weigh on mind and body, the appetite is gone, while the distress is aggravated by a sensation of burning in the stomach and œsophagus, with intense thirst and craving for cold water, which, with food or medicine, is immediately rejected. The ejected matter, being in most cases green or resembling indigo water, generally exhibiting a distinctly acid reaction with any alkali. In some cases the matters vomited are like frog spawn in spring, and the long strings of tenacious mucus, adhering to the fauces and tongue, greatly increases the distress of the patient.

These, then, are the symptoms of the disease. Symptoms, let us bear in mind, are *signs* of effects produced. What are the effects, then, to which those symptoms point? The long premonition, and the very gradual progress of these effects, are, I think, unmistakable testimony, that the cause, be it what it may, whether vegetable or animal, atmospheric or animalcular, is one of but little potency; that it is one against which the functions of life hold long and sometimes successful struggle; that the obtuseness of the sensations, the offensiveness of the breath and of the excretions, when obtained, are clear manifestations that the cause acts as a depressing or paralyzing poison, gradually suspending the eliminations from the body of those effete materials, which become poisons when retained; and from this same condition may also be understood, the laboring pulse, the abdominal pulsations, the dilated pupils, the cool dry skin, the intestinal torpor. The excitability of the organic nerves is obtunded, the heart is unable completely to expel the blood from the ventricles, and thus the abdominal aorta is no longer *filled*, the blood flows in separate waves, giving rise to the feeling of pulsation. The sensibility of the re-

tina to light, is so far decreased, that the iris hardly contracts when the eye is exposed to a bright light. The skin is cool, evidently showing that vital heat is not wholly, (at least), dependent on combustion; for the pulse, we see, is above the average of health, while the cutanous temperature is below the normal standard.

The intestines appear to have lost their peculiar sensibility, and no longer feel the stimulus of the fæcal mass; consequently its progress is retarded or suspended. The liver, to a great extent, suspends its functions, the portal circle is obstructed, the imperfectly evacuated ventricles refuse to receive the blood in its circuit, the veins of the stomach are therefore retarded in their currents, and, associated with the nervous derangement, produce oppression, nausea and heartburn; the latter, perhaps, in some degree dependent on the morbid secretion of acid by the stomach, at a time when even the ordinary call for such in the function of digestion is suspended. Day by day the evil increases; for, day by day the accumulation of effete matters is greater. The blood is more impure, the nervous centres are more deeply impressed. It appears to me, indeed, that the disease in question, is one of arrested excretory function in the first stage; of excrementitious poisoning in the second; that its effects are so much the greater, the prostration just so much the more severe, because the cause was so slow in its action, so gradual in its effects, the undermining of the bulwarks of health so insidious. I assume, then, that it is a disorder of function, not a disease of structure, and what few post-mortem examinations I have heard of, justify this view; for, except a congested and irritated appearance of the stomach, &c., a natural consequence of the constant straining to vomit, no pathological changes have been noticed. How far does the *treatment* usually employed sustain this view? Every practitioner, be his theory of its cause what it may, trusts, in a great measure, to purgatives If he can remove from the body the foul and fœtid intestinal contents, and can obtain from the internal lining membrane a free secretion of what we know must be abstracted from the blood, he trusts his patient will recover, and generally he is justified in his prognosis. Whenever the skin becomes moist he feels his hopes are high; for natural diaphoresis, during the reign of the morbid cause, is what, I believe, no one ever saw. When the

mouth begins to manifest the effects of mercury, he says, my patient will get well;—as many used to believe, as some still believe, *because* the *ptyalism is* a *cure*, the *discharge* salutary. But *really*, *I* am satisfied, it is *only because* the mercury—the effects of which we can *see* in the *mouth*, to which we can look as a thermometer—is then beginning to produce its specific or peculiar action upon all the mucus surfaces, restoring tone to the capillary circulation, and thereby restoring capillary function, that is secretion, and by the aid of secretion the causes of the disease will be removed.

It is a singular fact, that throughout this disease, the renal secretion *appears* little affected, in quantity, at least; whether this is really so, as regards its constituents, I have not ascertained, though the urine *looks* dull and oily. But this, I know, that attention to *stimulating* the renal secretion, has always, in my hands, appeared to be an important aid towards a removal of the disease; but whether this so appeared, only because the normal condition of the urine was thereby restored, or in virtue of a vicarious service performed by the kidneys, I am not prepared to say; the last, however, has been the object sought by me, and this again would tend to show, that by whatever excretory function you can depurate the blood, you in this disease, at least, aid nature to return to the normal performance of her functions. But while this is the end, which, it appears, all ought to seek, for the reasons I have stated, and towards which all the remedies usually employed have a tendency, there is, as we all know, a peculiarity about this disease, which often renders the use of such means futile, the attainment of this end peculiarly difficult. We desire to act upon the intestinal canal by the way which seems most natural, and is most common, and by agents, which experience has taught us, will in other cases, generally produce the desired effects; but in this case, the stomach, that gate-keeper of the bowels, refuses to entertain our agents, and hence, an amount of morbid cause, which, it is probable, might under other circumstances be easily removed, seems hardly amenable to any appliance we can use; when, in fact, from the congested condition of the stomach, and the general sluggish functional actions, *larger* doses than ordinary are needed. Doses *smaller* than usually required, can hardly be retained, and

the congested condition of the gastric mucus membrane, impeding absorption, will, I believe, explain the harmlessness of the enormous doses of calomel, which have sometimes been administered, and for which, as in similar treatment of cholera, it has been assumed that they were useful, because they did no harm. Another difficulty attending this morbid irritability, is, that it *appears* needful to use opium or morphia to allay it, and which, when used, must necessarily, to some extent, at least, unless the disease be spasmodic, still further add to the peristaltic and secretory torpor. Then, it will be asked, how is this irritability of the stomach, which so sadly interferes with the exhibition of our medicines, to be remedied, and how are the suspended functions of the bowels to be restored? These are, indeed, important questions; for, to move the bowels and to restore the secretory and excretory functions, are, indeed, our primary indications. But this is not enough, we have for the time to stimulate them to *extra* efforts; for they must not alone do each hour's accruing duty, they must atone for past deficiencies, they must sweep out the poisonous accumulations under which the powers of life are crushed. To restore these functions, and thus to stimulate them to unusual action, what means have we at command? Calomel is supposed to possess this power, and, wisely and moderately used, I believe, it will not disappoint us for some of our purposes. The difficulty to which I have pointed, namely that in the condition of the stomach present in this disease, *absorption*, (the only mode in which I believe calomel acts) is slow and uncertain, and it even, is apt to be rejected when given in large quantities. My practice is generally, to give only about two doses of about ten grains each, rubbed up with an equal quantity of fine *dry* salt. This I place *dry* on the root of the tongue, and immediately give a *small* drink of cold water to wash it down with, and give the other dose in about four hours. I then trust to other means, for a time, at least. I never knew calomel, so given, to be rejected, and, aided by injections, it will rarely fail in about 10 or 12 hours to bring away feculent fœtid stools, generally black and like thick tar, and so horrible offensive, that the odor is almost insupportable. Where the stomach will bear it, I then use strong infusion of senna and salts in small and frequently repeated doses, or cremor tartar and jalap; our more

potent cathartics, such as croton oil, gamboge, &c., being from their nauseating effects liable to agravate our most unmanageable symptoms, at least, such has been my experience. In very obstinate cases, where injections with a common syringe do not succed, an enema pump with an œsophagus tube attached, which should, after well greasing, be introduced into the rectum nine or ten inches, so as to pass beyond the annulus of O'Bierne, I have never yet known to fail in relieving, for the time, the constipation. And we should never forget that the retention of such fœtid matters is still further adding to the nervous prostration. I am generally willing to allow my patients good ale, the newer the better, as it not only isa narcotic stimulant, but a laxative. In most cases I have been in the habit of giving a pill containing quinine gr. ijss. and morphia gr. 1-10th ter die, and I think with advantage, to relieve the nausea, to neutralize the acids in the stomach, to supply materials to restore the blood to a normal condition, I give soda bicarb. about ʒss., or, which I generally prefer, Dr. Steven's saline powder, ʒss. in a cupfull of water every two or three hours. Where the breath and stools are very fœtid a few drops of chloride of soda in water, is often useful, and in the latter stages of the disease I think I have found benefit in the following pills, giving one every 3 or 3 hours:

Alcoholic Ext. Nux Vomica ϑj Rhubarb . . . . . ʒss. Aloes Socot. . . . . ʒss.	}	In Pills XL.

adding calomel grj. to each pill if indicated (see Brathwaite's Retrospect No. 18, page 116). This I use with the object of restoring tone to the intestinal muscular fibres. I have thought the addition of powdered capsicum might be advantageous in this stage of the disease. It must be evident from the views I have advanced as to the nature of this disease that it can never be considered to be really removed until all the organs of secretion and excretion are fully restored to their proper tone and functions; so that their products are perfectly free and normal. Unfortunately our patients usually get tired of our attendance before this state of matters is established; and hence has arisen in some part the general impression of the proneness to relapse, in those who have suffered from milksickness, and the popular idea that those who

have once suffered from it are never afterwards quite well. Another cause undoubtedly is, that in most cases those who have been attacked, still continue to reside in the same localities.

But there are circumstances connected with this disease, which though perhaps applying to all diseases, have not, I think, been recognized as belonging to milksickness, viz: that it is not only a disease of long inception, but that it is one varying in its degrees of virulence in different places and in different years, that in fact it is subject to the modifications of epidemic causes.

It has struck me, and I wish that others would state whether it has occurred to them, that ever since the cholera has been naturalized amongst us, its peculiar diathesis, if I may use the phrase, has accompanied not only our fevers, commonly so called, but that the disease in question has become much affected by it, in some respects mitigating its virulence, but in other ways complicating its treatment.

Of these modifications of the disease in question, the more ready amenability of the bowels to the action of purgatives, is the most prominent, and is certainly in one respect an advantage, but inasmuch as it is accompanied by an incapability of bearing the amount of purging, which appears necessary to the complete removal of the causes of the disease, it also becomes a serious and unfavorable modification. I have recently seen several cases of sickness (one especially) bearing all the features of this disease, in which as soon as even moderately free action of the bowels was obtained, a dysenteric character was manifested in the stools; to combat this, as there were signs of ptyalism, I gave spirits of turpentine in doses of a tea-spoonful with four or five drops of laudanum every three hours, and continuing the use of enemate, with the compound pills before named, the cases all went on to a favorable termination. I have neither time nor space to copy cases. Of the subjects of locality and etiology, I have before recorded my views; but in the absence of well classified facts upon which to base our theories, and as sometimes, what may claim no higher rank than speculations, may lead other minds on fresh lines of investigation. I will mention an idea which occurred to me during the unusual prevalence of the disease called milksick among the cattle in my neighborhood, during the past autumn. It is well

known that the leaves of plants and trees produce great effects upon the atmosphere, that during the day time they absorb carbonic acid gas, and give out oxygen, and that during the night a reverse process is going on. Now, as far as my recollection serves me, true milk sickness is most prevalent in very dry seasons, and very rarely occurs till the leaves begin to fade, (a condition occurring earlier in dry seasons); and therefore cease to perform this function of absorbing carbonic acid gas, and I believe it is allowed that all vegetable leaves perform this office. Assuming, therefore, that at the time they cease to execute this duty, that the same amount of carbonic acid gas is evolved as during the period of their absorptive function, especially when the early failure of the leaves would lead to the idea, that from the continuance of hot weather this would be the case, while from the absence of rains, there would be no water to absorb this excess, and it would thence seem probable that there should be an excess of carbonic acid floating in the atmosphere. I give these but as crude ideas, by no means assuming that carbonic acid gas is the sole cause of the disease, but thinking it possible that in some mode, or combination, it may act as a depressing influence, thus giving potency of effect to other causes, or perhaps gradually inducing that functional torpor which I believe to be the essential nature of the disease.

As somewhat corroborative of the opinion that a dry season is conducive to the development of milksickness, I will quote from a most sensible article by Professor L. P. Yandell, on milksickness, published in the *Western Journal of Medicine and Surgery* for May, 1852, but which I had not the pleasure of seeing till the foregoing paper was written, the opinions of various writers as to the season of the year and the character of the seasons, when this disease generally appears. Dr. Smydth says: "The season at which milksickness most prevails is the autumn, after vegetation has been killed by the frost, and has been observed to be most prevalent during dry seasons, when the streams are very low."

Dr. Armstrong says: "That the disease is more prevalent during a dry than a damp season."

Dr. Senton says: "That in wet or rainy weather they had few cases of milksickness, either in persons or stock;" "it was always

arrested by one good sweeping rain;" "that in Indiana it is always feared in dry weather."

Dr. Drake remarks: "That on the Miami River it oftenest occurs in August, and continues till the approach of winter, when it generally, but not always, subsides."

Dr. Thompson (Transylvanian Journal of Med.) says: "The season of the year at which the disease is most prevalent is the fall, after vegetation has been mostly killed, &c."

Dr. White says: "The disease is most severe during the dryest season of the year, &c."

Dr. M. L. Dixon says: "The affection is most prevalent from May to November,—but he adds, during very mild seasons, when vegetables continue verdant through the autumnal months, the case may be very different."

I quote all these from Dr. Yandell's very excellent article to shew that I am not quite alone in my idea of the kind of weather when it is most prevalent nor in the condition of vegetation at the time, not that these gentlemen drew the same conclusions as I here suggest.

Dr. Banks, of Charleston, Ill., as quoted in the Rep. on Practical Medicine, of the Illinois State Medical Society, for 1851, remarks: "So far as my observations go, it is worse in dry seasons, but not the dryest seasons."

As to whether my hypothesis points to a truth, as to whether the cause of the coincidence in which so many agree, is what I have suggested, I do not pretend to say. I have offered it but as a hypothesis, an idea sent off as a feeler for truth, not as an opinion formed. In such capacity an offspring of the imagination even may legitimately become a guide to truth.

ART II.—*Castration performed with the Thumb Nail.*—By A. H. VAN NORSTRAND, M. D.

I wish to call to your notice, as well as the rest of the profession, a new Surgeon, a new operation, and a new instrument.

The Surgeon by name Willcox, a turner by trade, the operation castration, and the instrument a thumb nail.

The circumstances are as follows: on the morning of March, 14th ult., about eight o'clock, A. M., my partner (Dr. Mack) and myself were called in some haste to the jail; when we arrived, we found the man above named, lying upon his bed, his garments bloody and the scrotum detesticled; the left testicle has the cord still attached, it having been pulled out from the abdominal ring; the other testicle had no cord attached, it having been torn off in his efforts to extract it; both testicles were hanging upon the cell door. I interrogated him as to the manner in which he performed the operation, and he answered as follows: "It was an awful operation, but I was compelled to do it, that I might conquer the world. I squeezed one in the front part of the bag and then took my thumb nail" (which was long and very sharp, and actually was the instrument used) "and cut down upon it till I had a hole large enough to get the stone through, I then took hold of it and pulled it out, cord and all; I then rested a while, but finally concluded that I wanted to see how the other one looked. So I cut through the partition (septum scroti) and took out the other, but I do not feel satisfied with that for I could not pull out the cord, it seemed to be rotten and tore off from the stone, still I think it will do, and as soon as I get well there will be no man that can stand before me." The hemorrhage had ceased, and the parts were somewhat swollen and above the natural temperature. I ordered ℥ij. Mur. Amon. dissolved in a quart of cold water applied to the parts by dipping clothes in the solution and placed upon the parts, and frequently changed. This was continued until the wound commenced to granulate, it was then discontinued, and further appliances were deemed useless. The wound completely healed in thirty days from the date of its production.

This man is about 50 years of age, is 6 feet 8 inches high, and possessed of great muscular power and determination of will, is insane on religious subjects generally, and spiritual rappings in particular; he has frequently requested me to furnish him another pair of testicles. He has told me that he had another pair growing, and would soon be as good as ever.

JEFFERSON, June 22, 1853.

A Few Thoughts on Periodicity in Disease.—By CHAS. L. ANDERSON, M. D., St. Anthony Falls, Minnesota.

> "Through all thy veins shall run
> A cold and drowsy humor, which shall seize
> Each vital spirit."—SHAKSPEARE.

A PHYSICIAN meets with more things in his practice than all the philosophies have ever "dreamt of." And many a time is his poor brain tortured to find a *cause* or a *reason* why. A lawyer may make his cases bend to the established "precedent," and to the rules of Coke, Kent, or Blackstone. A minister has his established creed, and each week, with sermon neatly arranged under "three heads," he expounds it to his somnolent hearers. But the physician finds that "precedents" and "rules," and an arrangement under the "three heads" will not always answer his anticipations. He must be a physical observer, an analogical reasoner, and an expectant of anomalous cases. He cannot follow a one-idea course with justice to his patients. He must not be ultra nor rigid, and yet he *must* be decided. It is true he has facts before him from which to draw his inferences; but even these may lead him to a false conclusion, unless he take into the account other facts of, frequently, an antagonistic nature.

In the few thoughts I propose to offer on the subject of Periodicity in Disease, my aim will be to arrive at practical conclusions, instead of establishing any vague theories. I will also endeavor to be as simple and concise as the intricacy of my subject will possibly permit.

Periodic motion is characteristic of things, whether ponderable or imponderable. It is apparently inherent to all forces resident in matter, as well as to the masses of matter. A few familiar examples will illustrate this. A body cast into the air will cease to ascend as soon as the impulse which it received is overcome by the resistance of the atmosphere, and by what we term gravity. It then descends, inversely, with the same velocity as it ascended. The vibrations of the pendulum afford another example of periodic motion. The ripples that surround a pebble when cast into a

quiet lake—the magnetic battery—the vibratory nature of sounds —in short, all motion must be periodic; although one kind may be more perceptible than another.

Of the actions going on around us, we recognise two as most prominent, viz: Organization and Disorganization—Growth and Decay—Life and Death. And these are subject to that omniprevalent law, Periodicity.

From the mineral the vegetable grows, and may from thence be assimilated to the animal. But this is the acme, or extreme of the vibration. Reaction ensues; it is again returned to dust, prepared for another impulse and another reaction.

Thus, briefly, we observe the nature of Periodicity, its prevalence, and its variations. Of its object it matters little to my subject. I will merely state as a proposition, that the tendency of every motion, after the impulsive force ceases to act, is to that of an original condition; or rather, to an equilibrium. To illustrate,—the pendulum seeks its starting point—the disturbed wave seeks rest—the "fitful gusto" of wind endeavors to preserve a balance—an increased action is followed by a proportionate diminution, and then a gradual restoration. This primitive tendency appears to be the grand object of motion; and from our idea of motion it is impossible to separate the idea of periodicity.

Life and motion are so intimately connected that we scarcely know how to define a difference. So much so that an eminent poet and student of nature has written:—

> "From the star
> To the winding worm, all life is motion;
> And in life, *commotion* is the extremest point
> Of life. The planet wheels till it becomes
> A comet, and, destroying as it sweeps
> The stars, goes out. The poor worm winds it way
> Living upon the death of other things;
> But still, like them, must live and die the subject
> Of something which has made it live and die.
>
> BYRON.

Having endeavored to present to the mind a few palpable examples of the general aspects of periodicity as observed in all of Nature's works,—(for the physician must consult Nature and follow her teachings if he hopes for success in his practice) I shall

now speak of the nature of those diseases which are eminently characterized by periodic action.

The first and most prominent is the common Intermittent Fever. In this, regular paroxysms occur, with scarce an hour's deviation from a fixed time; and the paroxysms are repeated almost any number of times without a second application of the cause. Now what is the nature and pathology of this disease? We must appeal first to the morbid anatomy as observable in *post mortem* examinations; and secondly, to the symptoms manifested during its progress. The most certain, and indeed almost the only appearance, in a *post-mortem*, is that of congestion, and its usual consequences. The brain, liver, lungs, and spleen seem to suffer most,—the latter organ almost invariably. We are led from a careful study of this disease to regard it as the result of a disturbance in the nervous equilibrium in the first place, and resulting in a depravation of the blood and derangement of the absorbent and secretory functions. Malaria may be, and is most commonly, the cause of this disturbance—but other causes may produce a similar effect. This disease, then, being primarily, and as some *post-mortems* show, entirely a difficulty in the nervous functions, we are led to examine the nature of nervous diseases. Even in health, the nervous phenomena evince a periodic character. Sleep, appetite, cultivated habits, and many other things, afford common examples. But in the case of an ague, the nervous force being for some time impeded by an antagonistic force, at last rallies to expel, as it were, a poison which had formed, and is being formed, (perchance by some unknown chemical affinities,) in the system; and the chill, so often observed, is the consequence. It is an effort of Nature to effect a cure. But the powerful force and congestion in the suffering organs does not always leave the individual unharmed. Lesions of the brain, lungs, liver, spleen, &c., may result. But why does another paroxysm return in a certain length of time? I answer, merely because of the disturbed equilibrium; or a re-application of the first cause, until the nervous system has acquired, as it were, a *habit*. To illustrate by the example of the pendulum, I might say that the chill and internal congestion is one extreme in the vibratory action, and that the consequent fever and external heat is the other extreme. The

impulse has been given by the introduction of an agent which acts chemically upon the vital forces. And this impulse being once given, and the vibration commenced, it is as natural for a second paroxysm to occur as it is for the pendulum to vibrate a second time.

I need scarcely point out the practical inference that would arise from the above reasoning. The natural mode of treatment would be to equalize the disturbance in the circulatory, secretory, and nervous organs. Means for this are ample and have long since been resorted to with notorious success by physicians as well as empirics. But for *what reason*, I aver, few have ever hesitated to think; except that experience had shown such a mode to be most successful.

A word in regard to *critical days*, and I close this article. From the periodic character of disease arose the idea of critical days. The ancient Egyptians, it is said, were able to foretell the day and hour of a patient's death. Ætius, for this purpose, laid down rules, founded upon the crisis in disease. Whether these rules are practicl is extremely doubtful. But that there are regular and fixed periods, or crises, in every disease, I have no doubt. But when we come to consider that each case presents new combinations—not like any other that has ever occurred before it, or ever will occur after it,—we conclude that it is beyond "mortal ken" at present to prognosticate with certainty as to the future events of any case of disease.

But here is a field for philosophical investigation, that may be investigated with great value to the science of Medicine.

The Success of Homœopathic Practice.—By De Laskie Miller, M. D.

There are, no doubt, *some* persons who believe that the *apparent* success of Homœopathy is the legitimate result of efficiency in their system of practice. While, however, a much larger number of the people entertain the impression, that their boasted success is entirely negative; in other words, without themselves understanding the *difference*, they believe that patients treated according to homœopathy *get well*, instead of *being cured*.

We are satisfied that, if the members of the medical profession would direct more attention to this point in practice, many errors would be avoided, and much of the odium of our profession removed; for this would lead to closer discrimination, and a more

judicious course of treatment. More reliance would be placed on the dynamic forces of the system, which, in the phraseology of the older schools, is the "*vis medicatrix Naturæ*;" and the physician would become, as he should be, the conservator of nature. There can be no doubt that the almost unparalleled success which attended the herculean operations of the late Prof. McLelland, was the result of his accurate discrimination, and ability to calculate upon the recuperative powers of nature. A case coming under our own observation is in point.

Some six years since, a young lady, aged 18 years, applied to a physician of respectable standing on account of severe neuralgic pains, affecting different parts of the body in succession. The case was decided to be one of spinal disease, and treated accordingly. For three years this patient was under the most active treatment, such as blisters, setons, and issues; and internally, alteratives, tonics, and anodynes, till she became so far reduced as to walk with great difficulty, and with no amelioration of her symptoms. She then, under the advice of another physician, discontinued all medicine, took regular exercise, and immediately began to improve in strength and spirits, and regained perfect health. Who doubts that in this case the attending physician failed to detect the symptoms caused by the treatment?

Another case. A lawyer of eminence in this city, a few days since, sent a message to an intelligent and experienced physician to visit his wife, who was considered quite sick. The physician went, examined the case, and told the lady that she needed "*rest*" but if she did not feel well by the next day, she might take a blue pill. On the following day the husband called for the prescription of blue pill. "Is your wife sick to-day?" "No; she feels quite well." "Then," replied the doctor, "she has no occasion to take the medicine."

Is it not absolutely certain that, had the first case passed into the hands of a homœopath, it would have been heralded as a triumphant vindication of the efficacy of their system; and that the last would have confirmed the patients in the assumptions of this phase of quackery?

What we would teach is: Always have *clear indications* as the basis for active treatment; or on the maxim of the celebrated Rush—"When you know not what to do, do nothing."

An Inquiry, Critical and Experimental, into the Pathology of Fever. By N. S. Davis M. D. Professor of Pathology, Practice of Medicine, and Clinical Medicine, in Rush Medical College; and one of the Physicians to the Ill. Gen. Hospital.

[Continued from Page 176.]

Again, if the same original cause be generated and introduced into the system with its properties modified in the opposite direction, it so changes the relations of the blood to the solids that the vital or molecular affinities are suspended, and of course the primary functions are suspended also, constituting a stage of depression or chill, with scarcely an available element of reaction. And this constitutes the pernicious or malignant intermittent. Such cases are often regarded as congestive, but they differ just as much from proper congestion, as do the phenomena that precede and accompany an ordinary chill differ from those of "simple nervous depression." The three cases here supposed are intended to represent the three well known varieties of periodical or malarious fever. Between the active remittent and the well marked pernicious intermittent there is truly a wide difference. The one is characterized by a high irritative fever continuing with remissions only for two or three weeks, unless cut short by appropriate remedies, while the other exhibits the very opposite of excitement and often terminates fatally in a few hours.

And yet so uniformly do they occur in the same localities, and so imperceptibly do the phenomena of the one become merged in those of the other in different cases, that all experienced practitioners acknowledge their origin from simple modifications of the same essential cause. That such cause does act *directly* on the constituents of the blood as well as the elementary properties of the solid tissues, is evident not only from the analyses which have been made while the disease is in progress, but also from the defective condition of the blood which remains often for a long time after the active febrile symptoms have ceased. This defectiveness is indicated by the altered hue of the skin, the pale or semi-transparent appearance of the pro-labia, and the inordinate muscular weakness, or want of the usual power of endurance; showing at once that the blood corpuscles are so diminished and altered in quality as to be incapable of imparting the natural vigor and activity to the organic actions. It is this same defective con-

dition of the blood remaining after the interruption of the paroxysms of fever by simple anti-periodics that makes intermittents so extremely liable to relapse, unless a judicious plan of treatment is persisted in until it is fully restored. A failure to recognize this fact, and a disposition on the part of both practitioners and patients to regard intermittents as *cured* when the active paroxysms have been arrested, has indeed led to such frequent relapses as to materially shake the confidence of the people in the ability of the profession to *cure* this simple form of fever. If, as I have endeavored to explain in the preceding pages, the true pathology of periodical fevers consists in diminished tonicity* coupled with a morbid development of susceptibility in the solids, and a rapidly increasing impoverishment of the blood, we have a rational explanation of the well known tendencies and sequalæ of that class of diseases. The irritative excitement of the nervous, vascular, and secretive structures, coupled with diminished tonicity in the same parts, and an altered affinity between the solids and fluids, directly disposes first to excited functional action in some organs and rapid congestion in others, and subsequently to more permanent non-inflammatory visceral engorgements and dropsical effusions—I say *non*-inflammatory engorgements, because it is now well known that a very large majority of the visceral obstructions resulting from intermittents and remittents, instead of being the result of inflammatory action, and amenable to antiphlogistic and mercurial remedies, are much more certainly and speedily removed by such means as are calculated to renew and replenish the blood and increase the tonicity or textual vigor of the solids.

And even in those cases where true inflammation does exist in connection with this class of fevers, it is well known that active depletion is not borne to the same extent as in inflammation of the same organs or tissues unconnected with periodical fevers. And not only is active depletion badly borne in such inflammations, but cases are frequently met with in which medicines possessing moderate tonic properties act beneficially.

Hence we are led to infer that inflammation may occur, characterized by pain and tenderness, in parts where the tonicity or

* See Appendix Note B.

texture is impaired and the capillary vessels in a relaxed or debilitated state. And it is owing to this element in those pneumonias and other inflammations that occur in malarious districts, which causes them to require a treatment essentially different from the same disease in non-malarious sections of country.

The actual results or post-mortem appearances which have been observed in fatal cases of periodical fever, vary very much, being influenced by the variety and duration of the disease. Simple intermittents so seldom terminate fatally that very few opportunities for making post-mortem examinations have occurred. The malignant or pernicious variety of this disease, however, often terminates fatally in a few hours; and its pathological anatomy has been examined by several physicians in the west and south. Dr. Drake, after alluding to several of these, concludes as follows, viz:—

"To sum up, we may say, that the signs of inflammation were few and uncertain, that *passive* congestions were common; that they occur in the brain and lungs, but still oftener in the abdominal organs; above all in the spleen; but that no organ was always affected, and consequently *that none*, according to these observations, is the invariable and characteristic seat of lesion."

I have had but one opportunity of instituting a post-mortem examination in a well marked case of this disease. In this instance the patient died in the first paroxysm and in little more than twelve hours from the commencement of the attack. The external surface was livid or leaden color, on account of the capillary congestion, but a very careful examination of the brain, spinal cord, and viscera of the chest and abdomen, discovered no marks of disease except simple venous congestion in the membranes of the brain and mesentery. The substance of the brain, the liver, and the spleen were natural in color, size, and consistence, and there were no *visible* lesions sufficient to account for the ceaseation of life. In such cases the elementary functions of the system are suspended and life becomes extinct before sufficient time has elapsed for any considerable organic changes to occur. Indeed, the whole phenomena, both before and after death, are such as we might suppose would be presented if by some agency or influence the organic

susceptibility of the system could be suspended so far that the heart, the lungs, and the capillaries respond very feebly to the presence of their natural stimuli, the blood and the air. The blood becomes retarded in the capillaries, the secreting organs fail to furnish their accustomed secretion, the production of animal heat is greatly diminished or entirely suspended; producing a purplish or leaden color of the lips and sometimes of the whole surface, coldnesss of the extremities, feebleness of pulse, irregular and sometimes sighing respiration, and a sense of great oppression and restless anxiety. If relief is not speedily obtained, life ceases, leaving the veins and more vascular structures more or less engorged with dark blood, but without any other physical evidences of disease. Those who regard the nervous system as the primary seat of morbid action in fevers attribute the death in such cases to a suspension of innervation. Thus, says Dr. Drake, "in several cases, very few traces of disease were found. The *patients died from nervous depression.*"

"The phenomena of *Congestive fever*," says Dr. Condie, "are evidently the result of *defective innervation*, and an impeded action of the heart and lungs; the blood imperfectly decarbonized accumulates in the internal organs and thus prevents the full and regular exercise of their functions. The impression of the morbific causes by which the disease is produced is, in all probability, made *primarily* on the *nervous centre*, and by depressing the energy of its action gives rise to all the other phenomena which characterize this form of fever." It would have been more satisfactory if the advocates of the neurological origin of fevers, had stated more definitely what they mean by "*nervous depression*" and the "*nervous centre.*" Is this *nervous depression* a paralysis or suspension of the functions of a part or of all the nerve matter in the system? Where is the *nervous centre*, of Dr. Condie? Is it the centre of the cerebro-spinal system—the medulla oblongata, or is it the central ganglia of the sympathetic? And what are the phenomena, either during life or after death, which show that the nerve tissues are any earlier or more deeply involved, than the vascular, the visceral, or the muscular? Certainly, so far as post-mortem examinations have been recorded.

they show much more frequent and decided marks of disease in the viscera than in any part of the nervous system. And the symptoms during life are far from being analogous to those which accompany any well known disease or injury of the brain, medulla oblongata, or spinal cord. The phenomena which accompany inflammation, congestion, concussion, and compression of the cerebro-spinal centres have all been observed and recorded, but we seek among them in vain for symptoms closely analogous to those which mark an attack of fever, whether mild or malignant. The particular pathological condition claimed is that of "nervous depression;" by which I suppose we are to understand that the functions of the "nervous centre" are diminished or suspended. But a diminution or suspension of action in any part of the cerebro-spinal system is well known to produce corresponding impairment or suspension either of the mental faculties or of the sensitive and motor powers of some portion of the physical system. Yet paralysis, whether partial or complete, is nowhere enumerated among the symptoms of pernicious fever, and though dulness of intellect or moderate delirium is sometimes present it is by no means a constant symptom. In the summer of 1851, while the cholera was prevailing as an epidemic in this city, the following case came under my observation, viz: Mr. A., a Norwegian by birth, aged 20 years, sanguine temperament, and good constitution, ate his breakfast as usual in the morning and went to his work as a day laborer. He was soon seized with a feeling of prostration which rendered him unable to continue his work. His companions gave him a little brandy and water, after which he walked home and sent for his physician. Before my arrival he had went to the privy, had one pretty copious watery evacuation from his bowels, returned into the house, sat in his chair, smoked a pipe of tobacco and went to bed. Arriving soon after, I found the aspect of the countenance dull and shrunken, the lips and nails purplish, the skin dingy, and when pressed upon, the blood returned slowly through the capillaries, the extremities very cold, pulse 110, small and easily compressed, impulse of the heart feeble, respiration slow, tongue moist with a thin whitish fur, much craving for cold drink, a sense of great oppression or sinking at the epigas-

trium, and slight cramps in the muscles of the legs. There was no vomiting, no disturbance of the intellectual faculties, and no apparent loss of either sensation or motion. In this case the remedies prescribed had no visible effect whatever; on the contrary, the purple color of the lips and nails, the lividity and coldness of the surface and tongue, the feebleness of the pulse, and the sense of sinking or oppression rapidly increased until the capillary circulation and pulse at the wrist were entirely suspended, and he died within eight hours after the commencement of the attack. After the first visit there were no discharges either from the stomach, bowels, or bladder; the abdomen was not distended, and the mental faculties with the sensitive and motor functions remained, with no other evidence of disturbance than a debility or indifference which a rapidly failing circulation would necessarily induce, until a few minutes of the fatal termination. I have seen one or two similar cases during each season that the cholera has prevailed here in an epidemic form; and the most careful post-mortem examination can detect no other evidence of disease than the livid and shrunken state of the surface, and the general accumulation of dark fluid, or only partially coagulable, blood in the veins and capillaries. So far are the phenomena during life or after death from indicating an early and profound lesion of the nervous centre, that while watching anxiously by the bedside and seeing the capillary circulation, the secretions, and the animal heat all rapidly diminish until the pulse could no longer be felt at the wrist, the skin, lips and tongue livid and cold as death, and yet the brain continuing to manifest the mental faculties, the nervous cords to transmit the mandates of the will, with a continuance of ordinary sensation and the power of deglutition, I have been compelled to think that of all the important organs in the system, the nervous centres were the least disturbed and the last to be overwhelmed. True, these cases were regarded as cholera rather than pernicious fever; but their similarity to the latter makes them interesting as points for comparison. But it will be said that the failure of the capillary circulation, the suppressed secretions, the feebleness of the heart's action, and the diminution of animal heat, *are the* evidences of *nervous depression*—that the

presence of these symptoms constitutes sufficient evidence of a profound lesion of the nervous centres. This would be true if it were first *proved* that capillary circulation, secretion, and animal heat, were wholly controlled and maintained by the agency of the nervous system. That the nervous system exerts some influence over these functions, was long since demonstrated by the experiments of Wilson Philip, Sir Benjamin Brodie and others; and the same is shown by the phenomena which accompany every paralyzed limb.

But it has been demonstrated with equal clearness and certainty that such influence, instead of being supreme and all-controlling, is entirely limited and subordinate.

The truth of this will be at once apparent by referring to the experiments of Weber, Dr. J. Reid, and Muller, in reference to the circulation, and the more recent ones of Dr. Dowler, Dr. M. Cl. Bernard, and Dr. Brown-Sequard.

Dr. Carpenter says in regard to this subject, that "the experiments of Muller and others satisfactorily prove that the ordinary action of the nerves does not produce any direct effect upon the capillary circulation."

Dr. Dowler, in his observations on the circulation and temperature of the body, after death from yellow fever and other rapidly fatal diseases, found that in many instances the capillary circulation was continued for some minutes after the heart's action had entirely ceased, filling the veins to such an extent that a puncture gave exit to a free stream of blood projected several inches from the orifice. Again, it is well known that in cold blooded animals the circulation has been seen to continue after both the heart and the nervous centres had been removed or destroyed; and in the development of the embryo, the *rete vasculosa* or first rudiments of circulation commence, independent both of the heart and nervous system. On the other hand, the observations of Mr. Wharton Jones, Mr. Paget, and Dr. J. Reid, show that the circulation of the blood in the capillaries may be retarded or entirely arrested by changing the qualities of the blood, independent of any change in the action of the heart or the nervous centres. The latter found that when the air had been obstructed in its passage through

the trachea of a dog until the blood had assumed a veinous hue in the arteries and the inspirations slow and labored, the systemic capillary circulation became almost entirely suspended. In this state he applied the hæmadynamometer to the femoral artery and found the pressure of blood on the walls of that vessel much greater than natural, while in the veins the pressure was proportionably less. On removing the obstruction to respiration and allowing the blood to become again decarbonized the pressure in the artery returned to its normal condition while that in the veins increased. Mr. Jones found similar effects to be produced by directing a stream of carbonic acid against the capillary net work without any interference with the respiratory process. These facts clearly show that the retarded circulation in the capillaries resulted from an altered relation between the vessels and the contained blood, and not from any fault in the action of the heart or central organs. For in Dr. Reid's experiments, though the action of the lungs and heart were both more or less obstructed, yet the latter continued to send the blood to the capillaries until the pressure in the arterial trunks became much greater than natural, while in the venous trunks it was equally diminished, thereby showing that the obstruction was necessarily in the intervening, systemic, capillaries. Now, if we admit the truth of the proposition, that all organized matter is endowed with a *susceptibility* to impressions without regard to nerve influence, and consequently that the capillaries, secreting cells, and all the elementary structures possess such susceptibility, we can readily account for the results of the experiments just alluded to, as well as many important pathological phenomena. For instance, when the blood was so changed by being deprived of its oxygen, or by being overcharged with carbonic acid, that it was incapable of maintaining the inherent susceptibility of the tissues, the affinity between it and the capillaries ceased; and in the same proportion the passage of blood through them became retarded or entirely suspended. If it is thus certain that there is something beyond mere innervation or the integrity of the nervous system, necessary to establish and maintain the circulation, the proof is even more explicit in regard to the production of animal heat. For, while the experiments of Brodie and the ordinary phenomena of paralyzed limbs, seem to show that a

withdrawal of the nervous influence causes a diminution of temperature, there are not wanting many facts of a directly opposite character.

Thus Sir B. Brodie himself relates a case in which a severe injury in the lower part of the cervical region completely paralyzed all the parts below, and yet the heat of the body, as shown by a thermometer placed in the groin, was 111o, Fahrenheit. Dr. Dunglisson relates other cases of the same kind; and M. Cl. Bernard, in a communication in the *Gazette Medicale*, during the past year, states that division of the trunk which unites the sympathetic ganglia in the neck uniformly gives rise to an increase of temperature in the corresponding side of the face, often amounting to 7° or 8°, F.; and that removal of the superior cervical ganglion produces the same effect. The elevation of temperature thus induced is not temporary or dependent on the occurrence of inflammation, but often continues many months. Neither is it prevented by dividing in addition to the sympathetic, the branches of the spinal nerves distributed on the same side of the face. By referring to the *Medical Examiner* for August, 1852, we find the same statements made by Dr. Brown-Sequard, who attributes the increase of temperature to a dilitation of the vessels in the paralyzed part. He further states that if a galvanic current be transmitted through the upper portion of the divided sympathetic nerve, it soon causes a contraction of the capillary vessels of the corresponding side of the face, and with such contraction a reduction of the temperature to the normal standard. From all these facts, it would seem that the nerves exercise only a *limited* influence over the capillary circulation, their injury or destruction in some cases diminishing and in others increasing the circulation of blood in the parts on which they are distributed; and that the temperature increases or diminishes in direct correspondence with the supply of blood. We cannot, therefore, in the present state of our knowledge rightfully claim that the failure of temperature, of capillary circulation, and of secretion which takes place so rapidly in severe cases of pernicious fever, cholera, &c., is merely the consequence of "*nervous depression*."

Such a claim is not merely hypothetical, but it fails to afford a satisfactory explanation of the phenomena presented either

during life or after death. For, if it is true that in the most malignant and rapidly fatal form of periodical fever there are less traces of disease in the nervous structures than in the vascular and visceral, the difference is still greater in the milder and more protracted cases. For though intermittent fever in its ordinary form seldom terminates fatally during the immediate progress of the disease, yet it induces changes in the system that are easily observed and which every now and then prove ultimately fatal. These changes instead of being most prominent in the nervous centres, as we should expect if they constituted the primary seat of morbid action, are universally noticed most prominently in the blood, the nutritive processes, or the viscera of the abdomen; and frequently in all these at the same time. I have seen no sequence of disease more uniform than the diminution of red-corpuscles in the blood, and the loss of tone in the solid tissues, in all cases of protracted intermittents. In some instances this change in the blood and tissues generally is sufficient to induce dropsy and death without any visceral enlargements or mechanical obstructions to the circulation in any part of the system. An analysis of the blood in an extreme case of this kind has already been given in this essay; and I have another now under treatment in the Hospital.

In remittent fever the predominant morbid appearances in the blood and the viscera of the abdomen over those in the cerebro-spinal and ganglionic nervous system, is equally well marked. A few years since, Dr. Stewardson, in the Pennsylvania hospital, and Dr. Swett, in the New York hospital, undertook a very careful examination of several cases of remittent fever occurring in those institutions. Dr. Stewardson examined the brain in five cases, and after detailing the appearances remarks as follows, viz: "The above alterations are similar to those found in other acute diseases, and must be regarded as slight and comparatively unimportant, if we except the individual in whom there was large bloody effusion in the ventricles." Dr. Swett also examined the brain in five cases, and reports it for the most part *healthy*, although some of the patients had delirium and coma during life. The viscera of the chest were examined by Dr. Stewardson, in six cases. He found unequivo-

cal evidences of inflammation of the lungs in only one case; and in another they were "highly congested, their color throughout nearly their whole extent being very dark, almost black, and the tissue but slightly crepitant, though not granulated or very easily penetrated." The heart he found "flabby" in three of the six cases examined, and in two there was diminished consistence. "In the same three cases its lining membrane was reddish brown, deep red or violet; in two of these, the coloring being deepest on the right side and in the neighborhood of the valves, and extending into the pulmonary artery and aorta." Dr. Swett, says the "heart was either natural or flabby and softened; and in two cases the lungs showed signs of pneumonia." In the abdominal cavity the chief changes were noticed in the liver, duodenum, and spleen. In regard to the first, Dr. Stewardson says it was "enlarged in three cases, and in one of them to a great degree; in the others it was of natural or moderate size. The consistence of the organ appears to have been generally diminished, being flabby, or softened, or both, in four cases, a little soft in the fifth, and moderately firm though still readily penetrated with the finger in a sixth; in the seventh the consistence is not mentioned." The color in every instance was changed to a bronzed or slate color externally, and olive within. In the five cases examined by Dr. Swett, the condition of the liver corresponded very closely with those of Dr. Stewardson, both as to consistence and color. The latter regards the change of color as peculiar and characteristic of periodical fever. Dr. Swett attributes it to a change in the coloring matter of the bile. Dr. Drake says; "My own occasional autopsies, have afforded results, which correspond very well with those which have been detailed; but I confess that my attention was not attracted to the *peculiar* color of the liver."

In November, 1852, a patient died in the Illinois General Hospital, who according to her own account had been attacked several weeks previous with remittent fever. When she was brought to the hospital, dysentery had supervened, and in a few days more she became almost universally edematous; the effusion being greatest in the lower extremities and abdomen. After death the liver was found enormously enlarged, exactly corresponding in

color with those described by Dr. Stewardson, and considerably softened in its texture. On examining it under the microscope it was found to be very copiously infiltrated with fat globules; the latter evidently making up the greater part of the abnormal bulk. The patient was reported to have been addicted to the intemperate use of alcoholic liquors; but the evidence in relation to this was not very reliable. In this case, the spleen was also enlarged but very little altered in texture. In almost all the cases reported, the spleen has been enlarged, engorged with dark blood, and in most of them, softened. In commenting on the nature of the foregoing changes in the various organs, Dr. Drake, in his Systematic Treatise, page 831, very judiciously remarks: "But the admitted ravages of inflammation are neither constant nor striking:—not sufficient, I think, in most instances, to account for the death of the patient; unless we include among them all cases of congestion and softening; which would certainly be gratuitous. *Passive Hyperæmia* is an unquestionable pathological fact; and *fever softens every tissue* of the body. To the latter type of morbid action, we may refer the soft and flabby state of the heart, not less than of the liver, spleen, and mucous membrane of the stomach and duodenum. * * * * The soft and pulpy state of the mucous membrane, with but little appearance of hyperæmia, is doubtless, of a febrile, rather than phlogistic origin."

If it is true, as asserted by Dr. Drake, that fever "softens every tissue in the body;" indeed, if the actual post-mortem phenomena afford any indication concerning the specific nature of the preceding disease, then certainly the impoverished blood and softened textures resulting from protracted and fatal intermittents and remittents strongly sustain the position that one of the primary elements in the pathology of those fevers is a diminution of the *tone* or texture, or in other words, an alteration of the affinity between the elementary particles of which the tissues and the blood are composed. And it is this, coupled generally with an exaltation of the organic susceptibily or irritability, and involving every tissue in which the blood circulates, whether it be nervous, vascular, muscular, or cellular, which constitutes the primary and essential pathology of this class of fevers.

Let us next inquire into the nature of those morbid appearances which are most common in fatal cases of the continued type of fever. Under this head I shall include both the *Typhus* and *Typhoid* of modern writers. Perhaps no subject has been examined with greater care than the morbid anatomy of continued fever. Its almost universal prevalence, its fatality, and the controversy concerning its varieties, have led to more numerous and minute post-mortem examinations, than have been made in reference to almost any other disease. On this point the writings of Louis, Chomel, Jackson, Gerhard, Jenner, and Upham are particularly full and satisfactory in their details. But their facts have been so extensively copied into all the more recent works on the general subject of fever, that they are within the reach of every industrious student of the profession. Hence it is only necessary for my present purpose to detail so many of these appearances as will serve to indicate their extent and nature.

Perhaps no part of the physical system is more constantly altered from the normal condition in all the varieties of continued fever than the blood.

Chomel examined the blood in the heart and aorta of thirty fatal cases of typoid fever, and found "small scanty fibrinous concretions in six, dark coagula in nine, and dark fluid blood in fifteen." Andral and Gavarret made many analyses of blood from typhoid fever patients and generally found the fibrine diminished in direct proportion to the severity of the disease. In no case did they find this constituent increased. Dr. Gerhard describes the blood found in the heart and larger vessels after death from *typhus* fever as uncoagulated, thick in consistence and very dark color. Dr. Jenner says, "the fluid condition of the blood generally, was observed in about equal proportions in the subjects dead from typhoid and typhus fevers; but it was far more profoundly diseased, i. e., it deviated far more from its healthy condition in the cases of typhus than in those of typhoid fever." Dr. Upham noted particularly the condition of the blood contained in the heart and larger vessels, after death from "maculated typhus or ship fever"; and he uniformly describes it as "thin, dark, and

oily"—or "fluid, dark and sizy, its clot soft and readily broken down." My own examinations of the blood in continued fever have chiefly been made during the life of the patient; and in no well marked case have I found it presenting the same appearances as in health. The appearances have pretty uniformly corresponded with those particularly described in case third, the analysis of which has already been given in detail.

As remarked in connection with that case, I have uniformly found far less alteration in the relative proportion of the constituents of the blood in continued than in periodical fevers, but a much greater alteration of the *qualities* of such constituents. I have not even found the fibrine as deficient as represented by Andral and Gavarret, but it always coagulates much more slowly and forms a much less firm clot than in health. The red globules too, are much more irregular in size and darker color both in the arteries and veins than natural. These changes in the appearance and qualities of the blood, seem to bear a pretty direct ratio, in degree, to the severity and prostration characterizing the disease. Next to the blood, the organs most uniformly affected in continued fever are the mucous membrane of the alimentary canal and the spleen. In the more severe and rapidly fatal cases and those usually styled typhus, the mucous membrane of the stomach and duodenum is in many cases softened, especially near the great curvature of the stomach, and in some cases ecchymosed and in others paler than natural. The same appearances are sometimes seen in the mucous membrane of the ilium, but ulcerations are comparatively rare. In the more protracted cases, and those occurring in subjects between the ages of 18 and 35 years, softening of the mucous coat of the stomach is less frequent, but the aggregated glands of Peyer in the small intestines are very generally injected, softened, and ulcerated. Sometimes the ulcerations are very extensive, occasionally perforating all the coats and inducing a rapidly fatal peritonitis. But the extent of these ulcerations are not found to bear any uniform relation to the severity of the disease; many fatal cases occurring with but slight affection of the glands or none at all.

With ulcerations in the ilium we almost always find the glands in the corresponding portions of the mesentery enlarged, often softened, and sometimes the peritoneum covering them bearing marks of inflammation. In one morbid specimen now in my possession in which the glands and mucous membrane of the ilium were extensively ulcerated several of the glands in the annexed portion of the mesentery were enlarged and their substance reduced to a semi-fluid consistence; and in its recent state two or three spots on the peritoneum were injected with blood and covered with a layer of coagulable lymph or false membrane. In the same subject the membrane lining the larger bronchial tubes was injected with blood, dark red, and softer than natural. In another specimen which was taken from a patient that several weeks previous had labored under some pulmonary disease, but who subsequently died with typhoid symptoms, the mucous membrane of the ilium is extensively injected, in some portions intensely red, in others dark brown, and throughout studded with small ulcerations both in the aggregated and solitary glands. But in this case the mesenteric glands instead of showing signs of inflammation or softening, are very much enlarged and filled with hard calcareous matter. In almost all the cases of continued fever terminating fatally that have been examined, more or less changes from a normal condition have been noticed in the spleen. In many cases it is enlarged and darker color than natural; and in nearly all it is described as filled with dark fluid blood, somewhat softened in texture, and sometimes so broken down that it tares as readily as an ordinary clot of blood. The liver is much less frequently diseased than the spleen. In the majority of cases it is reported healthy or only slightly altered; but sometimes it is enlarged or softened, or both. The lungs have been found in an abnormal condition almost as frequently as the spleen. The most constant morbid appearance is that of passive engorgement with dark blood, almost always in the lower and posterior, or dependent parts of the organs. So great is this engorgement in some cases that the affected part more resembles an enlarged and softened spleen than the natural tissue of the lungs. In those cases which have run a protracted course, especially in the middle period of life, portions

of the lungs are often found consolidated and sometimes granular, as if a low grade of pneumonic inflammation had existed. The muscular structure of the heart is often found more flabby or softer than natural and its inner surface deeply stained with dark colored blood. Of all the important organs named the brain presents the least constant and serious marks of disease. Chomel carefully examined the brains of 38 fatal cases; and in 15 he found no morbid appearances whatever; in 12 from one to two drachms of serous fluid were found in the ventricles; in 7 there was some effusion of a similar fluid in the meshes of the pia mater; in 6 a slight diminution of the consistence of the cerebral substance; in five there was a slightly injected appearance of the substance of the brain. Louis examined 48 cases; Dr. J. Reid more than 150; Jenner 35; and in all, the results correspond very well with those detailed by Chomel. Generally the membranes of the brain are more or less congested with dark fluid blood, and in a large majority of cases this is the only morbid appearance, even where delirium and coma have been very prominent symptoms during life. So true is this, that Dr. Bartlett observes, "there is no ascertained relation between the cerebral symptoms during life, and the pathological conditions of the brain and its membranes, appreciable after death.

Delirium and somnolence are found to have occurred as frequently, and to have been as strongly marked, in patients whose brains presented no changes, or only very slight ones, after death, as in those of an opposite character." See Bartlett on Fevers, page 90, third edition.

Dr. Watson also, when speaking of the cause of coma which is a frequent symptom, especially in fatal cases of continued fever, says: "Physicians have diligently searched for it by examining the dead brain. I cannot tell you how often I have looked, and looked in vain, for some palpable disorganization, or some effusion implying pressure. All who are familiar with the dead-house of a hospital are aware that this fruitless search for some physical explanation of the comatose state, after death by fever, is of very common occurrence." See Watson's Practice, p. 942, 3d Ed.

(*Continued next month.*)

SELECTIONS.

From the American Journal of Med. Sciences.

Neuralgic Operations.

Dr. J. MASON WARREN related the following case. The patient was a lady, 35 years of age, who, nine years before, was seized, while pregnant, with a severe pain in the tip of the forefinger of the right hand. The only cause she could attribute it to was the too free use of the needle. The pain had gradually increased, affecting the arm and shoulder, and, finally, other parts of the body on the same side. Every remedy, which the experience of distinguished surgeons in the vicinity could suggest, had been ineffectuelly tried. She was informed by Dr. W. that the success of an operation was doubtful. Aside from the above disease her health was otherwise good, and she was in good flesh. The appearance of the finger was somewhat red, and the motions impaired. It would not bear the slightest examination without the most excessive suffering, The patient being etherized, an incision was made a little in front of the inner aspect of the finger, the digital nerve exposed, and about half an inch of it excised. The same operation was repeated on the other side.

The operation had been followed by the most complete success; the patient was heard from some months afterwards perfectly free from a recurrence of her disease. Dr. W. referred to an operation similar to the above done by Dr. Buckminster Brown, and reported in the *Transactions* of the Society. These cases he thought interesting on account of the discredit into which the division of nerves for neuralgic affections had of late years fallen. At a subsequent meeting, he mentioned the case of neuralgia of the lower jaw, in which he had trephined that bone at its angle, and removed half an inch of the nerve, the operation being successful so far as he is acquainted with the after history.

Dr. Sargent, of Worcester, Associate Member of the Society, spoke of two cases in his own practice; the first he observed in a nervous female who had pricked the ulnar side of the palm of the hand near its articulation with the little finger; the neuralgic pain, in this instance, was evidently in the *skin;* very slight touch causing exquisite pain, while forcible, deep pressure did not; the touch of a feather upon the affected hand and arm produced acute suffering; the hand *springing up* convulsively at such touch; the pain first appeared in the seat of the injury. Dr. S. applied can-

tharides plaster, and then morphia to the cutis, repeating them three or four times; the treatment was followed with relief at each application, and after two or three weeks there was no recurrence of pain. The same patient afterwards injured the other hand with a pin, neuralgic pain of like kind supervened; similar treatment was followed speedily by a like result. Dr. S. alluded to analogous cases of long persistence, in which atrophy of the affected parts occurs; he has met with such; of neuralgia *confined to the skin* he had seen but two or three cases. A few years since, Dr. S. saw a man who had severe neuralgic pain supervene in the cicatrix of a cut which he had received on the dorsal aspect of one of the thumbs near the nail; a touch upon the scar caused great pain, which extended up the arm; blisters were ineffectual; an incision was productive of immediate and entire relief.

Dr. Parkman mentioned the case of a female of middle age, wounded by a needle in the ball of the thumb; spasmodic pain supervened extending to the entire arm, with severe spasms of the limb; free crucial incision afforded complete relief; the affection was of two or three years continuance.

Dr. Brown remarked that, in the case reported by him and referred to by Dr. Warren, morphia applied to the blistered surface, and, indeed, every other known remedy was wholly ineffectual; the excision of a portion of the nerve was at once and entirely successful; no return of the disease.

Dr. Hayward, Sen., spoke of a case in which, a piece of a nerve being removed, no relief was experienced. Dr. H. cited a case in which Dr. Warren, Sen., removed an inch of the ulnar nerve for relief of neuralgic pain consequent upon a bruise of the arm and injury to the nerve, not the least relief of the pain followed; the patient, a young woman, finally submitted to amputation of the limb.

Dr. Parkman said that, in a case in which he divided the nerve at the mental foramen, last summer, with apparantly permanent relief, the neuralgia has returned, and now pervades the entire face.

From the American Jour. of Med. Sciences.

Anæsthetic Properties of the Lycoperdon Proteus—Common Puff-Ball.

The number of the *Med. Times and Gazette*, for June 11, just received, contains an abstract of a paper read before the Med. Society of London, on the anæsthetic properties of the Lycoperdon proteus. The author's attention had been directed to the fact, that the smoke of the common puff-ball was used in the country for

stupefying bees, and the idea struck him, that it would be worth while to ascertain if the same agent would produce narcotism in higher classes of animals. Several weeks since, he commenced a series of experiments with the fumes of the fungus, and had continued them to the present time. He found it possible to produce the most perfect anæsthesia with the fumes. His experiments had been made on dogs, cats, and rabbits, and had been witnessed by Drs. Wills, Crisp, Cormack, Snow, and several others. He had administered the narcotic fumes in the impure state, and in a clarified state obtained by passing them through a solution of caustic potass. When an animal was exposed to a large quantity of the narcotic vapour, the narcotism came on very speedily, and the insensibility was most decided, but recovery soon took place. Dr. Willis and Mr. Richardson had removed a large tumor from the abdomen of a dog that had been placed under the influence of the narcotic. No sign of pain was shown during the operation, and the animal did well afterwards. The fumes were obtained by burning the fungus. When a moderate quantity was inhaled slowly, the narcotism came on and passed off slowly, the animal exhibiting all the symptoms of intoxication, with convulsions, and sometimes vomiting. Several animals had been intentionally destroyed by the narcotic. It destroyed life slowly; a dog would often inhale the fumes for twenty minutes or half an hour, after being completely narcotized, previous to expiring. The heart's beat, in all cases, survived the respirations. The lungs, after death, were pale; there was no sign of congestion in any organ; the blood retained its red color, but did not coagulate quickly; cadaveric rigidity set in in two or three hours. During recovery from a protracted narcotism, an animal would sometimes be quite conscious, but insensible to pain. Mr. Richardson had himself inhaled the clarified fumes of the fungus; they produced in him symptoms of intoxication and drowsiness, but he did not breathe them long enough to become completely narcotized. Mr. Richardson was able to afford but little information as to the nature of the narcotic agent contained in the fumes. Many of the fungi possessed narcotic properties, and had been supposed to possess an alkaloid resembling morphia; but the subject had never been thoroughly investigated. He should only say, concerning the narcotic principle contained in the puff-ball—1st. That it was of a most volatile nature; 2dly. That it was not absorbed by alcohol, water, or strong alkaline solution; 3dly. That if the fungus was burned in oxygen gas, the narcotic principle still remained in the fumes, and produced its effect, if free oxygen was breathed with it. The fungus had been given internally to two animals without effect. In Italy, it was fried and eaten as food. In conclusion, Mr. Richarson said, that he had been anxious only to show that

a volatile narcotic principle, capable of causing anæthesia by inhalation, did exist in one of the fungi; it remained to be seen whether other fungi possessed a similar principle, and whether from a fungus an anæsthetic could be obtained that might be used in practice, with as little trouble to the operator and with less danger to the patient than ether or chloroform.

Dr. Snow corrobrated Mr. Richardson's observations, having witnessed several of his experiments. There could be no doubt that the fungus did possess a very volatile narcotic principle, capable of causing insensibility to pain. As yet, however, the narcotic was not so practicable as chloroform. The subject deserved and required farther research.

From the London Med. Times and Gazette.

Treatment of Chronic Abscess of the Breast and Milk Fistulæ.—Employment of Iodine Injections,

We have been much gratified by watching the result of the treatment pursued by Dr. Birkett in several cases of chronic inflammation of the breast, attended with sinuses and long continued suppuration, which have recently been under his care. This form of disease, as the result of neglected milk abscess, falls, we have no doubt, pretty frequently under the observation of most of our readers, and is often very trublesome to cure. The breast becomes affected with solid œdema, the sinuses, usually running in several directions through and behind the gland, are most difficult to close, and, by the constant discharge from them, the patients powers become much undermined. In an extreme case of this description, which had lasted for many years, we not long ago saw Mr. South perform excision of the whole diseased mass, believing that to be the shortest method of getting rid of a useless part, which had become a serious evil to the patient. The remedies usually employed are, as it is well known, support to the part, and the laying open freely of the sinnues, or the injection of them with various irritating fluids. Mr. Birkett's treatment consists in the employment of iodine taken internally, applied as an ointment over the tumor, and used also as an injection for the sinuses, whilst at the same time, the part is carefully supported and subjected to gentle pressure by means of a bandage. The power of iodine, as a means of exciting the absorption of inflammatory products, is well known; and, as an application to the lining membrane of sinnous abscesses, it has for some time been employed on the Continent, and, less generally, in this country also. The success which has attended Mr. Birkett's method of treatment has been, as the following case will show, most encouraging:

Elizabeth Wiles, aged 26 the wife of a farm laborer was admitted January 6th, 1853. Three years ago, while suckling, she suffered what, from her description would appear to have been, an attack of acute inflammation, both of the left mammary gland, and of the surrounding structures. Her child was then eleven months old, and the disease appeared to have been excited by inflammation of the lymphatics of the arm, from a sore on the finger. It was so severe as to confine her to bed for ten weeks, and to necessitate the employment of a great number of leeches. It ultimately subsided considerable without having occasioned any abscess. The swelling, however, never quite disappeared, but after a time it again began to increase; and a year subsequent to the first attack, a large chronic abscess had to be opened, which never afterwards healed. In September, 1852, she was again confined. The disease of the breast having resisted the persevering treatment of several practitioners in the town where she lived, and her constitutional power being evidently very much reduced by the long continued and profuse discharge of pus which it produced, she was ultimately recommended to come up to town, in order to have Mr. Birkett's opinion as to the propriety of excision. On admission, she was emaciated. and of a somewhat hectic appearance; the discharge from the sinuses was very profuse, and the whole breast much indurated. She was then suckling with the right breast.

Mr. Birkett advised her to wean her infant, and ordered her to be confined to bed, with a poultice over the part for a few days, until the state of excessive irritation, which appeared to exist, had somewhat subsided. He then prescribed for her the following mixture:

℞. Potassii iodidi, gr. iij., infus. gent. ℥j., ter die sumend.

The breast to be wrapped in lint spread with ung. plumb. iod., and the whole supported by a bandage carried around the shoulber. On the 23d, the symptoms having already begun to amend, the injection of all the sinuses with the tincture of iodine, (London Pharmacopœia,) was performed by means of a tube carried to the end of the sinus. The treatment as above was persevered in, and after the expiration of a week the injection was repeated, and again after another space of two weeks. At present, March 15, the sinuses are quite healed; the gland has been reduced very nearly to its natural size, and the patient has gained in general health to a point beyond what she has enjoyed since the commencment of the disease. With the exception of the first few days, she has been allowed to be out of bed the whole time, and full diet has been allowed her. On each occasion that the injection was used, it produced considerable smarting pain, and was followed by a temporary increase of swelling and discharge, which very quickly subsided.

We scarcely need point out the advantages of the above plan of treatment over the old method of laying open the sinuses. In the latter the incisions have to extend wide and deep, and they involve considerable hemorrhage, and, for a time, increased constitutional irritation and great discharge of pus. Other cases of a similar nature lately brought under Mr. Birkett's charge, in which the iodine cure has been practiced, were the result of common milk abscess, from which the above, as will be seen, differs in some particulars.

Prevention is better than cure, and, as we believe, there are few diseases more thoroughly within the reach of prophylactic measures, than is milk abscess, we cannot dismiss the subject without saying a few words on that head. The history of this disease is in most cases easily told. A woman of delicate skin is confined, perhaps for the first time; lactation commences, the cuticular investment of the nipple, irritated by the mouth of the child, becomes cracked and fissured, each application of the infant to the breast occasions torment to the mother, and she avoids it as much as possible. The child is allowed to suck only on the sound side, the milk accumulates in the other breast, and slight inflammation is set up, to be aggravated by the increasing dread on the part of the patient of the natural method of relief, the evacuation of the milk. An abscess is the result. Now, how was all this to be avoided? In most cases, pregnant women consult their medical advisers on sundry little points some time before their confinements. Let him, on those occasions, enquire as to the state of the nipple; and should the skin be found to be delicate, the daily application to the part of an alum wash, decoction of oak bark, or some other astringent, should be recommended. By such means the skin may be hardened, tanned in fact, and rendered just as capable of resisting irritation as that of the finger. In other cases, milk abscess depends on the non-development of the nipple. The surgeon should take care that a shield be provided beforehand, and that his patient knows how to use it properly.

But, supposing that, with the greatest care, abscess has proved unavoidable, there are still measures by which the disease may be prevented from passing into the deplorable condition in which we have noted that the patient in the above case came into Mr. Birkett's hands, We have repeatedly heard Mr. Paget observe, that, among his out-patients at St. Bartholomews, he never has any opportunity for trying the various vaunted injections for the cure of sinuses in the breast, because the latter always heal of themselves. We have very carefully watched Mr. Paget's practice, in which mammary abscesses are very common, and can most fully confirm this statement. His treatment consists in the free evacuation of all collections of matter, and in the internal exhibition of tonics.

A generous diet of meat and beer, with full doses of quinine or iron,—such are the remedies under which improvement in the local and general condition of the patient seldom fails to become rapidly manifest. It must, however, be admitted, that the applicants, as out-patients, do not include a small class of peracute cases, in which the symtoms are often too severe to allow the patient's leaviug her bed. The systematic avoidance of antiphlogistic measures in the treatment of local, suppurative inflammations, is daily becoming more and more common, and in no respect has modern practice more strikingly advanced than in this. It affords, too, a good illustration of the application of minute pathological research to actual every-day practice. Those of our readers who had the good fortune to hear Mr. Paget's lectures on inflammation, delivered before the College of Surgeons three years ago, will remember how unwillingly the Professor admitted the existence of any increase in formative power in that condition. This view, founded as it was on theoretic reasoning, and microscopic observation of the process, has since been advocated by other pathologists, including some of the German school, and it is interesting to observe how, upon empirical recommendations merely, the line of practice which it would suggest, is rapidly coming into vogue.

From the Southern Journal.

Hot Water and Soap in Ptyalism.

A great variety of remedies have, from time to time, been employed in the treatment of ptyalism ; every practitioner having his own favorite remedy. Tar water, solution of creosote, lead water, sumach root tea, sage tea and honey, alum, spts. turpentine, &c., have each acquired more or less reputation in the hands of different practitioners; but we have never been satisfied with any of these remedies, though we have repeatedly prescribed them. Very recently, having to treat a severe case of accidental ptyalism, we prescribed a *hot* solution of soap. The patient was suffering with severe pain of the gums and copious salivary discharge—a few drams of spirits of soap was added to one pint of *hot* water, and the patient directed to take it into the mouth, as hot as he could bear, and retain it until the surplus heat was exhausted, and repeat for an hour, allowing an interval of half an hour for rest. At the end of twelve hours, we had the gratification to find the patient almost entirely relieved of the pain—the swelling and redness of the gums and soft parts about the mouth rapidly diminished, and in a few days, by the persevering use of the hot water, the patient was free of all uneasiness about the mouth.

The value of hot water was suggested from having observed the good effects of hot tar water in a similar case; the patient, a delicate, nervous female, was directed to use warm tar water occasionally, but finding that the hotter the water, the greater relief was afforded, she continued using it as hot as the mouth could bear it. We had noticed too, the effects of the prolonged immersion of the hands of washwomen in warm *soap suds*, corrugating and puckering the skin of the hands and fingers to such a degree that the blood seemed almost expelled from the vessels of the part.

The first effect of hot water in mercurial sore mouth, seems to be relief from the painful distension of the soft parts, and secondly, an anemic condition of the blood vessels from contraction or collapse of the capillaries. The stronger preparations of soap are powerfully astringent—the kind used in preparing the spts. sapo. was the castile—it may be that *turpentine* soap is preferable.

From Med. Times and Gazette.

Case of Traumatic Tetanus cured by the inhalation of Chloroform. By Dr Th. V. Dusch, of Mannheim.

A patient, aged 26, ran a nail into the great toe of the left foot, on April 17th. On the 30th, he experienced difficulty in opening the mouth. On May 2d, the masseter and other masticatory muscles were contracted, and the mouth was closed. On the 5th, the symptoms were more severe; and on the 6th, there were tetanic spasms, returning every five minutes, combined with opisthotones. Morphine, bleeding, tobacco enemata, cupping, &c., were tried without avail. Pulse 112; skin warm. Chloroform inhalations were then directed. The tetanic symptoms disappeared during the narcotism, and the patient obtained some rest. Upon the return of the spasms, the chloroform inhalations were repeated, during which the pulse sank from 110 to 60. The author now endeavored to keep the patient in a state of constant excitement, and administered, between this date and the 20th of May, 64¼ ounces of chloroform.

21st.—The inhalations were discontinued; cold was applied to the shaven head, and a quarter of a grain of acetate of morphia was given every two hours. On the 4th of June the patient was well.

Dr. Bargigly, of Lesbos, relates the case of a countryman, in whom the tetanic symptoms came on after the ex-articulation of the third finger. The patient was cured by the same treatment.

A similar case is related in Langenbeck's Clinic.

The death of the patient in tetanus is caused by the cramps ex-

tending to the respiratory muscles and to the heart. It rarely occurs from loss of power in the brain or spinal cord, or from exhaustion. The course is usually acute, the tetanic symptoms ensuing in the following order:—trismus, cramp in the muscles of back and neck, the extremities often remaining free. Most patients die before the twelfth day. The prognosis is the more favorable the longer the disease lasts. The advantage of narcotising remedies consists in this, that the tetanic cramps become suppressed or rendered milder, and thus the respiratory act and the contractions of the heart proceed unimpaired. Chloroform from being taken into the blood direct from the lungs, is preferable to all other narcotising remedies, which must be absorbed from the stomach. The effects of the chloroform inhalations must be continuous, the patient remaining days, and even weeks, more or less, under its influence, until a point of saturation is attained, characterized by the rapid production of the extreme narcotising effects, the patient during the intervals being in a state of obstinate excitement; head hot, face read, eyes glistening, frequent epistaxis, &c. Atmospheric air was mixed with the chloroform in Dr. Dusch's case.

Half-yearly Abstract of Med. Sciences.

*The Effects of Different Remedies in Diabetes.**

The subject of Dr. Frick's observations was placed under peculiarly favorable circumstances for ensuring all necessary certainty. He was a prisoner in the Maryland Penitentiary, in the prime of life, not fleshy, but healthy and strong in appearance. The case itself presented no unusual peculiarities.

In the course of the investigation, abundant proof of the general and not local character of the disease was obtained, sugar being found not only in the urine but also in the sweat, fæces, chyme, bronchial mucus, saliva, as well as in the blood and in the purulent matter of an abscess in the hand. Sugar was also found in the ordinary excretions, and in considerable, though in diminished quantities, when all sugar or sacharifiable substances were carefully excluded from the food; it was even found in the chyme when the previous meal had consisted of meat and eggs alone.

Dr. Frick's conclusions upon the influence of diet are somewhat surprising. In the matter of *drinks* he finds it not necessary to subject the patient to any privations. He found, indeed, that the *specific gravity* of the urine varied according to the amount of

* A Case of Sacharine Diabetes, with the observations on the Results of Treatment. By Charles Frick, M.D., Baltimore. American Jour. of Medical Sciences, July, 1851.

fluid drank, but that the sacharine contents in a given time underwent little or no variation. And equally so with respect to food; for though the symptoms are ameliorated when the diet is made to consist of animal matters, "there is no real improvement, and the deprivation of sacharine and amylaceous matters is not counterbalanced by the diminished thirst and less frequent calls for micturition."

We have been most struck, however, with what is said upon the effects of remedies in the treatment of diabetes, and it is this part of the article that we would reproduce here. Many remedies were tried, and their effects carefully noted for a week at a time, every precaution being taken to preserve the patient as much as possible in the same prdicament. The remedies were given in the dose indicated below, and repeated thrice daily, and the result is shown in the corresponding figures, which indicate the amount of sugar passed in the stools as well as in the urine during the week in which each remedy was tried.

		Grains		Grains.
Strychnine	1–6 gr.	3369	Without medicine . .	14520
"	1–7 gr.	3565	Creosote and naphtha .	15028
"	1–10 gr.	6250	Cod-liver oil, 6 ʒ per week	15058
"	1–15 gr.	6425	" 10 ʒ "	16108
"	1–20 gr.	6360	Ergot	17150
Mur. tinc. ferri	10 drops	6900	Cod-liver oil 20 ʒ per week	20160
"	20 "	8264	Whiskey	20504
Aqua ammonia	5 "	12550	Calomel and opium .	24230
Iod. potass.	3 gr.	14270	Ergot, strych., and iron	24340

Strychnine.—The amount passed without medicine is obtained from the average of eleven analyses. We see, therefore, that the influence of strychnine exerts by far the greatest control over the quantity of sugar passed in the urine and fæces. The patient was kept under its influence for various periods, amounting in all to four months. It is here shown that, under doses of one-twentieth of a grain, the amount is diminished to less than one-half, and under one-sixth of a grain to less than one-fourth. For three successive days he was kept upon a meat diet, and one-sixth of a grain of strychnine administered three times daily. The quantity of sugar, on the third day, was diminished to 132 grains. This was the 30th of October, and was the smallest quantity we ever found in this patient's urine.

Tinc. Ferri. Mur.—This remedy, in doses of ten drops, diminished the sugar one-half; but on increasing the dose to twenty drops, a notable increase manifested itself, though still showing the beneficial effects of the medicine.

Aqua Ammonia.—The diminution here amounted to one-sev-

enth. Larger doses were tried, but they produced so much uneasiness that they had to be discontinued.

Iodide of Potass.—The effect of this remedy over the excretion of sugar was little or none. It produced pain in the bowels and diarrhœa.

Creosote and Naphtha.—These also produced great inconvenience, and their effect was to increase slightly the quantity of sugar.

Cod-liver Oil.—It whatever doses this medicine was administered, its effect was to increase the amount of sugar. When six ounces per week were taken, the difference was slight; but when increased to twenty, one-third more sugar was passed. One fact, however, is worthy of notice. The patient, under this remedy always gained weight, and, with the exception of the period when ergot was administered, only at that time. In forty-four days, on four pounds of oil, he gained nineteen pounds.

Ergot.—The patient under the influence of this remedy, gained in one week nine and a half pounds, but the amount of sugar increased one-sixth.

Whiskey.—This increased greatly the quantity of urine, as might be supposed, and also the sugar, which amounted to one-third more than when he was taking no medicine.

Calomel and Opium.—This was continued for two weeks, till the patient was brought decidedly under the influence of the mercury. The calls to urinate became more frequent, and the amount of sugar became nearly doubled.

Ergot, Strychnine, and Iod. Ferri.—Under this combination the excretion of sugar was about the same as the preceding. He complained greatly of the mixture, and the largest quantity of urine was passed during its administration.

From the Transactions of College of Physicians.

Lactine as an Article of Nutrition.

Dr. Ruschenberger stated that he had recently made trial of lactine, or sugar of milk, in a case of extreme irritability of the stomach, occuring after a profuse loss of blood from menorrhagia. The stomach would not retain any even of the mildest forms of nutriment adapted to the case. Having seen a suggestion in a western journal for the employment of lactine in place of cod-liver oil, and from its being tasteless, believing that it might possibly be tolerated by the stomach of his patient, Dr. R. directed her to take it, first, in small masses, to be gradually chewed and swal-

lowed, and subsequently in larger quantities. It was without difficulty retained, and the patient under its continued use improved greatly—gaining strength, and the stomach resuming its functions.

The suggestion in a western journal, referred to in the above article, was found, doubtless, in the report published in this journal of a discussion in the Cook Co. Med. Society, upon a valuable paper upon this subject by Dr. J. H. Bird. (Eds.)

From the Brit. and For. Medico-Chirurgical Review.

On the Utility of administering Opium by the Urethra.

Prior to 1830, the author had published a statement of the great utility derivable from the introduction of opium into the urethra, to alleviate or overcome certain painful or obstinate affections, and especially stangulated hernia, violent colics, and some forms of ischuria. Since that period, the opportunities of a large hospital have furnished him with abundant means of confirming his statements. The dose employed has varied from two grains to six, the effect being the same whether the opium is introduced merely into the urethra or reaches the bladder. Narcotism is much more easily induced in this way in the male than in the female. It has been found very useful in strangulated inguinal hernia, the hernia sometimes returning of itself when the narcotism has been induced, but the aid of the taxis being also required in most cases. When the accompanying phlogosis has already led to certain results, such as adhesion, purulent effusion, &c., or where strangulation has supervened upon long-continued irreducible hernia, the operation will still be required; but even in these cases, the patients who have been subjected to the narcotism are much less sensible to the pain of the operation, and suffer much less from the subsequent traumatic fever. It is surprising to see in these patients, twenty or thirty minutes after the introduction of the opium, so complete a cessation of pains which had been so violent; the pulse becoming softer, the hernia less tense, and the whole system falling into a state of relaxation as a consequence of the narcotism. In two cases the excessive suffering from nephritic colic, consequent on the passage of calculi, was relieved, after all other means had been tried in vain. In six cases of retention of urine, in four of which catherism had become impossible, relief was obtained. In two cases of Neuralgia of the urethra from onanism, the same result followed the reiterated production of narcotism. In cancer of the uterus, the practice proves a highly useful means of palliating suffering. In spasmodic

colic the method acts like a charm; and even in the inflammatory colic it is a powerful adjuvant to antiphlogistic treatment. This mode of introducing opium is also valuable in cases of painful organic disease of the alimentary canal, in which it is obstinately rejected by the mouth. Thus introduced, it does not cause the obstinate constipation or irritation of the digestive organs, nor the excessive narcotism, which large doses, often repeated, are apt to induce when administered by the ordinary modes.

From the Southern Medical and Surgical Journal.

Fœtus in Utero, killed by Lightning. By JAMES Y. CARITHERS, M. D, of Hendricksville, Alabama.

MRS. F——, aged about 40 years, in good health, and eight months advanced in pregnancy, received on the 10th of June, 1852, a severe shock from a streak of lightning, from which she recovered in a few hours—when she was attacked with labour pains which caused me to be sent for. On my arrival, I found her suffering with sharp pains. On examination, per vaginam, no dilatation of the os uteri had taken place. Bled her freely, and ordered her an enema of a gill of starch, with a teaspoonful of laudanum, and to take ¼ of a gr. of sulph. morphine every half hour, until she was relieved from pain. After taking the fourth dose the pains subsided. Ordered her to take on the following morning ol. ricini, ℥i. At 2 P. M., oil acted freely on the bowels, and at 4, P.M., I found her resting well. Allowed some light nourishment, from that time until she was delivered, which took place on the tenth day after she complained of being very unwell. The child was dead, and from the appearance, had been so since the time the mother felt the shock.

From the American Jour. of Med. Science.

Chlorate of Potash in Ulcerative Stomatitis and Cancrum Oris.

DR. J. H. BABINGTON states (*Dublin Quarterly Journal*, Feb. 1853,) that, in an epidemic of ulcerative stomatitis which occurred in the Coleraine Union Workhouse, in 1848, he used the chlorate of potash with great success. The treatment adopted was a mild aperient of rhubarb and magnesia, and the administration of chlorate of potash, dissolved in water, sweetened with syrup, in doses of four grains, every fourth hour; the mouth was also washed with a weak lotion of solution of chloride of soda. They all recovered in about six days. Dr. B. treated one case with alteratives and tonics, and it was three weeks before it got quite well; thereby proving the efficacy of the chlorate of potash.

From the Southern Medical and Surgical Journal.

Chloride of Soda.—The efficacy of Chloride of Soda in the treatment of Burns, Wounds, Ulcers, &c., has been so decided in our hands, that we feel impelled to say a few words on the subject in consequence of having, not unfrequently, found it to fail in the practice of others; and having always in such cases ascertained that the solution used was much stronger than that *we* are in the habit of prescribing.

The American chloride of soda being very seldom good, we never use any other than the French. The directions usually accompanying Labarraque's bottles are, however, apt to mislead those who look to them as a guide in its use. They state, for example, that "a mixture of one part of the chloride with seven or eight of water has been successfully used in chilblains and burns, and also for bad wounds, especially for sores in which mortification has commenced." Now, although so strong a solution may be useful when "*mortification has commenced,*" it will almost invariably aggravate the condition of burns and recent wounds. Lisfranc, to whom we are indebted for its use in burns, always recommended a solution of half an ounce in a quart of water,—insisting that the application must be weak enough to give *no pain*, but, on the contrary, to *allay* this. The sudden relief of the pain of burns which attends the application of this weak solution by means of cloths dipped into it, and kept wet, is truly astonishing. Whether the cuticle be removed or not, the relief is equally prompt, and the ultimate cure more rapid than by any other medication. One important effect of the remedy, especially in children, is, that it prevents the excessive suppuration which is itself so fatal in such cases.

As an application, or wash, to recent wounds of a lacerated character and to chronic ulcers, especially of the legs, we use a mixture of the same strength; and it is only in cases tending to mortification that we ever apply it sufficiently strong to produce smarting. In short, if its antiphlogistic effect be desired, it must give *no pain* when applied—whereas, if it be used as a styptic or stimulant it must be made stronger. We know of nothing more irritating, and consequently injurious, to a burn, new wound, or ulcer, than this solution, when made too strong.

From the Southern Medical and Surgical Journal.

Collodion for Chordee.—We read in the "Revue de Therapeutique, &c.," that Dr. Doringer has recently tried the use of Collodion in a case of Chordee, with good effect. The case was that of a young man, who, in his third attack of gonorrhœa, was

suffering very much with chordee, which resisted the usual remedies. Dr. D. ordered cold affusions to the organ until relaxation should occur, and then applied a thick coat of collodion to the entire organ. The erections ceased from that moment; but on the next day, the collodion having been removed, they returned, and were again arrested wit another application of the coating.

The above appears to us to be an ingenious and useful application of collodion, but also one not entirely free from danger. If the coating be not carefully applied over the entire organ, including of course the glans, and if it be not of uniform resistance, strangulation might result from the unequal compression whenever there occurred a tendency to erection. The coating should be thick enough to prevent its yielding at any point.

From the Southern Medical and Surgical Journal.

Fly Poison.—The danger of using the article commonly called Cobalt or Fly-Stone, the activity of which depends upon the arsenic it contains, renders it desirable to get an innocent substitute for it. The Swiss, it is said, are in the habit of using, very effectually, a strong decoction of quassia amara well sweetened with molasses. The flies being fond of it seek it with avidity and are very promptly destroyed.

It is said that an infusion or decoction of our poke root or the juice of its berries, made sweet with molasses, will very effectually destroy cockroaches. We have tried strewing the floor with cucumber peelings, and found it better than anything we ever used for getting rid of these filthy insects.

From the Southern Medical and Surgical Journal.

Deaths by Chloroform.—The New York Journal of Medicine contains a tabular statement of thirty-three cases of death from Chloroform recorded in the European and American periodicals up to the end of 1852, not including "those imperfectly reported, or those in which the persons have taken it without the advice of a professional person." From these tables, it appears that the anæsthetic was administered fatally ten times for operations on the toes and fingers, six times for the extraction of teeth, three times for operating on fistula in ano and hemorrhoids, twice for the application of caustic, once for opening abscess, and eleven times for other operations. Ten of the deaths occurred before the operation was performed.

From the Southern Medical and Surgical Journal.

Treatment of Ulcers.—We find in the "Revue de Therapeutique, &c.," that Dr. Lasanna, an Italian physician, recommends highly an ointment made of equal parts of tincture of Iodine and Lard in the treatment of ulcers in general. The application is made twice a day, and has, according to him, healed in ten days most obstinate ulcers.

Death of Dr. Beaumont.—Dr. Beaumont, the author of the justly celebrated researches on the subject of Digestion in a case of fistulous opening in the stomach, has recently died at St. Louis, aged about 68 years.

From the New Orleans Medical and Surgical Journal.

External Use of Ipecac.

The *Bulletin de Therapeutique*, (Revue Medico-Chirurgicale, 1853,) contains a paper by Dr. Detroux, on the external use of Ipecacuhana, as a valuable counter-irritant. The pommade of Ipecac possesses the same advantages, says Dr. D., as the ointment of Tartar Emetic, provided that it be incorporated with some fatty body, and be then rubbed over the surface of the part sought to be irritated, for a few minutes. Thus employed, it will speedily develope a characteristic exanthema in the shape of small papular elevations of an intense rose color, very numerous, and often confluent. Soon they assume the form of genuine pustules, but small, depressed in the centre—umbilicated—inclined to suppurate, and soon disappearing if the ointment be not renewed. It causes much less pain, and leaves behind smaller cicatrices than the Tartar Emetic ointment. He uses the following formulæ:

℞	Pulvis Ipecac,	1 part,	
	Ol. Olivæ,	1 "	
	Axungia,	2 "	M

Fit. ungt.

It is well adapted to children and delicate nervous subjects, on whose system the Tartar Emetic would be likely to produce evil effects.

EDITORIAL.

Medical Society of the State of Wisconsin.

MESSRS. EDITORS:

With this note I mail you a copy of the Law of Wisconsin, touching medical societies, etc., that you may better understand the minutes herewith furnished. You will notice, if you take the trouble to look, that our State Medical Society is composed of permanent members, and of delegates from County and District Societies; and that only two persons can become permanent members in any one year. The delegates from the local societies are chosen annually, one, for every five members.

This law was enacted in the year 1841, and has been in operation since.

Now, after an existence of twelve years, look at the State Medical Society, and what is its condition? Indeed, most wretched! The most that appears on inspection of the books, is a bare record of the names of members, a large majority of whom never attend a meeting of the society, unless held in their own town, and not always then. This is a sad picture to present, but it is too true to be controverted.

Of the several local societies, not one is in a prosperous condition—at least we may so conclude from the fact, that, at the last annual meeting of the State Society, only three permanent members were present, and *not one delegate!* Well, the conclusion is natural, either that the Law is worthless, or that the medical profession in this state is miserably lifeless—in either case it behooves the profession to be up and doing; for, if the fault be in the law, let us have a new enactment, or act entirely independent of legislative aid, and if the fault be in the profession, the sooner it is corrected the better.

Therefore it is, gentlemen, that I would, through your columns, most respectfully urge upon the medical profession throughout Wisconsin, the importance of taking hold of this matter in earnest,

for there is much work to be done, and only a few "regulars" to do it. Look you! is it in other parts of the state as in this, namely, *more than three quacks to every regularly educated physician?* If so, is there nothing to be done? This, however, is only one item on the list of "things to be done."

Then, let every "regular" feel it incumbent on him, to come up to the work and be "on hand" at Madison, on the fourth day of January A. D. 1854. If all do this, it is yet hoped that there is sufficient ability and energy in the profession of this state, to sustain, henceforth, an efficient medical organization.

But, gentlemen, I must not detain you longer—I have done.

Yours cordially

GEO. D. WILBER.

Mineral Point, Wis., July 14, 2853,

THE MEDICAL SOCIETY OF THE STATE OF WISCONSIN met at Janesville on Tuesday, the 14th of last June, to hold its annual session; but there being no quorum present, the society adjourned to meet at Madison on the fourth Wednesday of Jan. A.D. 1854.

Attest

A. L. CASTLEMAN,
Pres. pro tem.

GEO. D. WILBER,
Cor. Sect'y.

The Wisconsin Medical Association.

THE following named gentlemen, being present at Janesville on Wednesday, the 15th of June ult., to attend the meeting of the State Medical Society, and finding themselves unable—except Messrs. Lathrop, Castleman and Wilber, permanent members—to become members thereof, or to participate in the doings of the Society, agreed to associate themselves together to form a new State Medical Society.

Gentlemen present: Prof. L. P. Lathrop, and Dr. C. J. Taggart, of Beloit; Dr. D. Cooper Ayres, of Green Bay; Dr. Peter Winters, of Horricane; Dr. Alfred L. Castleman, of Delafield;

Dr. R. T. Hayes, of Platteville; Dr. Geo. D. Wilber, of Mineral Point; Dr. J. P. Hamilton, of Highland; Dr. J. Fayville, of Madison; and Drs. L. J. Barrows, C. G. Pease, and C. C. Bradly, of Janesville.

The meeting was organised by calling Prof. Lathrop to the Chair, and appointing Dr. Wilber Secretary.

The preliminary steps were taken for the organization of a Society to be known as "The Wisconsin Medical Association"; and Drs. Castleman, Fayville, and Taggart, were appointed to report at the next meeting, a Constitution and By-Laws for the permanent organization of the Association.

The following are the Officers of the Association until its permanent organization, and were elected by ballot, namely:—Dr. Castleman, President; Dr. Ayres, Vice Prasident; Dr. Wilber, Recording Secretary; Dr. Pease, Corresponding Secretary; Dr. Hayes, Treasurer; Prof. Lathrop, Dr. Barrows, and Dr. Taggart, Censors.

Dr. Ayres was appointed to deliver a public address at the next meeting of the association, on the subject of Lunacy and the importance of the immediate establishment of a State Lunatic Asylum in Wisconsin.

After the transaction of some other business, the Association adjourned to meet at Madison on the fourth Wednesday of January A.D. 1854, at 12 o'clock, M. All regular Physicians throughout Wisconsin, are particularly requested to bear the meeting in mind, and, if possible, be in attendance.

Atttest

ALFRED L. CASTLEMAN,
President.

GEO. D. WILDER,
Rec. Sec'y.

Lasalle County Medical Society.

Pursuant to a notice given through the public prints, and otherwise, a meeting of physicians was held at Ottawa, on the 29th ult.

On motion, Dr. C. Hard was appointed President of the meeting, and Dr. J. O. Harris Secretary.

After the object of the meeting had been stated by the President, the following persons were appointed a Committee to prepare a set of By-Laws for the governance of the proposed Society, viz: Drs. J. O. Harris, P. Kirwin, J. Hay, R, McArthur, and A. Hard.

On motion the meeting adjourned to meet again at 3 P. M. Meeting called to order by the President.

Dr. Harris, the chairman of the Committee on By-Laws, reported that they had performed the duty assigned them, which report was accepted, and the By-Laws presented were, with some amendments, adopted.

The following officers were then elected for the current year, viz: Dr. C. Hard, President; Dr. E. S. Morey, Vice President; Dr. J. O. Harris, Secretary and Librarian; Dr. P. Kirwin, Treasurer, and Drs. T. Hay, P. Kirwin, C. Haud, E. S. Morey, and J. O. Harris, Censors.

On motion, the Secretary was requested to publish in such journals as he thought proper, an abstract of the proceedings of this meeting, when

On motion the society adjourned to meet at Ottawa on Wednesday the 7th of September next.

C. HARD,
President.

J. O. HARRIS,
Secretary.

It may be proper to add that there has been for a year or more a *City* Medical Society in existence at Lasalle, but until the present time no County Society was ever organized. The meeting was not at all attended as was anticipated, yet, from the interest manifested by these who were present and from assurances given by others who were unavoidably prevented from attending, we feel confident that the society will flourish and be productive of much good.

J. O. HARRIS.

Cook Co. Medical Society, July 5th.—Notes of Experiments performed by MARSHALL HALL, M.D., F. R. S.; reported by J. W. FREER, M.D., Demonstrator of Anatomy in Rush Medical College.

No. 1.—The spinal cord of a frog was severed as nearly as possible at the upper extremity of the medulla oblongata, after which, for a

few minutes, no movements could be produced by irritation—probably owing to the shock of the operation—but upon recovery from the depression which lasted from two to three minutes, upon drawing out the posterior extremities, the animal withdrew them forcibly; again upon drawing out one posterior extremity and gently removing the hand, so as to cause the least possible irritation, there was no spontaneous disposition to contraction; but upon the application of excitement, by rubbing or pinching the toes, the extremity contracted with force. Even the slight irritation produced by the jarring of the table, or the drying of the water from the surface of the animal, was sufficient to produce motion. Again the animal was suspended by one foot, also placed across the edge of a tumbler, and in other painful positions, without exhibiting a disposition to spontaneous movement, at least while those present avoided jarring the furniture upon which it was placed.

No. 2.—The spinal cord was divided between the cerebrum and medulla oblongata, the same phenomena as were observed in No. 1, were produced, after which the viscera and head were removed. The head with the cerebrum, the viscera with the ganglionic system and trunk with the spinal system of nerves being placed in separate positions, the trunk still moved and leaped upon the table upon the application of excitement; but it was observed that motion mas excited more readily by the natural touch, than by pricking or cutting.

The next experiment was the removal of the skin from one of the posterior extremities, and the result was, that no kind of irritation upon the denuded surface was capable of producing contractions, while the same stimulus upon the opposite extremity produced active movements, hence it was concluded that the origin of the nerves of incidence must be in the skin. Next the lumbar nerve of the opposite side from the denuded extremity was severed, after which, no motion could be excited upon that side, but motion could still be produced upon the extremity from which the skin had been removed by irritating the surface above the denuded portion, also by pinching the lumbar plexus of the same side. The spinal marrow was then broken down, after which no movements could be produced.

Query.—After the division of the spinal cord at its junction

with the encephalon, in the above experiments, was there still sensation and volition remaining? The phenomena observed seem to give a decided negative.

In animal life every act or movement is generally accompanied by two things, viz: brain action and spinal action; ordinarily they are simultaneous in their manifestations, for instance, the eye may be closed by volition, it is also closed involuntarily by the approach or contact of foreign bodies; in this instance it is closed by spinal action alone; the two failing to agree, the function is performed without the interposition of the will.

What are the facts which go to prove, that after the removal or separation of the brain from the spinal system, there is no sensation or volition remaining? The first is this: in the human subject paralyzed by injury or destruction of the spinal cord we have testimony, that there is neither sensation nor volition, and yet motion in the paralysed portion may be produced by external means.

Again, if we take an animal—the frog or snake, for example—remove the head, and place the animal in any painful position, there would be motion providing volition and sensation were remaining, yet no such movement occurs, as the above examples attest; still on fresh excitation contractions will follow.

Since the above experiments, the following have been made upon snakes.

No. 1.—The spinal column was divided at a point near the anus, the animal's movements were but slightly interfered with, for the excitement produced by the movement of the anterior portion imparted sufficient stimulus to the posterior division to cause simultaneous motion throughout the body.

Next the spinal column was severed from the encephalon, after which the same results were obtained as with the frog, viz: upon suspending it by the tail, as soon as the excitement derived from the handling in order to place it in such position had passed away, no motion occurred for the space of about ten minutes, when it was again placed upon the table, the contact with the surface of which produced vigorous movements, which soon subsided into immobility as before.

No. 2.—In this instance, the first experiment was the division of all the soft parts down to the spinal column at a point near the middle of the animal. The shock was slight, and the movements seemingly not interfered with in the least.

Secondly. The spinal column was divided at about two inches back of the head, the same results followed as in the former instance. Lastly, all sources of excitement being removed, and the animal having become motionless, the position was sketched with a pencil in order to ascertain whether any movements might occur during the night with the following result: all that portion behind the point of separation had remained stationary, the anterior portion having changed its position.

The influence of the practice of the Daguerreotype Art, upon the health of the Operator.— Read by J. C. Morfit, M.D.

I wish to bring before the notice of the Society some points which I have not seen mentioned before. Being at a Daguerreotypist's about two weeks since, the operator was complaining of suffering from an abscess in the axilla which had troubled him for several days, and which he expected would, and which really did, burst that day. Upon enquiring as to the probable cause of its appearance, he said that he, and others engaged in the same business, were subject to swelling and enlargement of the glands all over the body, that many times the inguinal glands were enlarged and presented the appearance of venereal buboes, for which they would most likely be mistaken if the physician was not aware of the patient's calling, and its effects on the system. The appearance of these swellings is to be accounted for in the fact that the plates have to be coated with mercury, and as this is done in a small closet the operator is exposed fully to the fumes arising from the mercurial bath. The men, too, wet their hair to keep the dust and dandruff from flying on the plates, and hair by being thus moistened is more liable to retain the vapor. What effects the bromine may have I am unable to say, though I should think they were more confined to the respiratory organs. Seeing the bad effects of

this calling and noticing the liabilities to cold in those engaged in it, the question naturally arises, what can be done to procure perfect immunity? I leave this question open to the Society. But, with a little care, protecting the head by a cap, frequent ablutions and plenty of air, I should think the dangers would be much less.

The American Association for the Advancement of Science.

THE seventh regular session of this body was held, commencing July 28th, in Cleveland. A large number of scientific men from different parts of our country were present and participated in the exercises. The following papers were read during the meeting:

On the value of the Barometer in navigating the American Lakes. By W. C. Redfield, of New York.

Investigations in Analytical Morphology, No. 4; Stability of Saturn's Ring. By Prof. B. Pierce, of Cambridge, Mass.

Notice of a Hail Storm which passed over New York, July 1, 1853. By Prof. E. Loomis, of New York.

Recent Discovery of a Deep-sea Bank on the eastern side of the Gulf Stream, off the coast of South Carolina, Georgia and Florida, by Lieuts. Commanding Craven and Maffit, U. S. N., Ass'ts, Coast Survey. Presented by Prof. Bache, Supt.

On the Resistance of the Vertical Plates of Tubular Bridges. By Herman Haupt, Supt. of the Pennsylvania Central Rail Road, Phila.

On the Tides at Key West, Florida, from observations made in connection with the U. S. Coast Survey. By Prof. A. D. Bache, Supt. Washington.

The Zodiacal Light, the periodical appearance of Meteors, and the point in space to which the motion of the Solar System is directed. By Daniel Vaughan, of Cincinnati.

On the South East Monsoon of Texas, the Northers of Texas and the Gulf of Mexico, and the Abnormal Atmospheric Movements of the North American Continent generally. By Lorin Blodgett, of Washington.

Investigations in Analytical Morphology, No. 2; Stable and Unstable forms of Equilibrium. By Prof. B. Pierce, of Cambridge, Mass.

An Investigation of the Storm Curve, deduced from the Relations existing between the direction of the Wind, and the Rise and Fall of the Barometer. By Prof. J. H. Coffin, of Easton, Pa.

Does the Moon exert a sensible influence upon the Clouds? By Prof. E. Loomis, of New York.

On the Rising of Water in Springs immediately before Rain. By Prof. John Brocklesby, of Trinity College, Hartford.

A Geological Reconnoisance of the Arkansas River. By Dr. J. A. Warder, of Cincinnati.

On the Blood Corpuscle—holding Cells, and their relation to the Spleen. By Dr. W. I. Burnett, of Boston.

Origin of Quartz Pebbles in the Sandstone Conglomerate, and the Formation of the Silicious Stratified Rocks. By Prof. J. Brainard, of Cleveland.

Indications of Weather, as shown by Animals and Plants. By W. H. B. Thomas, of Cincinnati.

On the Geology of the Choctaw Bluff. By A. Winchell, Eutaw, Alabama.

On six Species of Plants. By Prof. Alphonso Wood, of Cin'ti.

On a remarkable Class of conjunct bases containing Cobalt and the Elements of Ammonia. By Dr. F. A. Genth, and Dr. W. Gibbs.

On the Solidification of Coral Reefs of Florida, and Source of Carbonate of Lime in the growth of Corals. By Prof. E. N. Horsford, of Cambridge.

On the fatal effects of Chloroform. By Prof. E. N. Horsford, of Cambridge, Mass.

Investigation of the power of the Greek Z, by means of Phonetic Laws. By Prof. S. S. Haldeman, of Columbia, Pa.

Notes on the Specimens of the bottom of the Ocean, brought up in recent explorations of the Gulf Stream, in connection with the Coast Survey. By L. F. Pourtales, Ass't. Presented by Prof. Bache, Supt.

On the Earthquake of April 29. 1852. By Lorin Blodgett, of Washington.

Investigations in Analytical Morphology, No. 3; Forms of the Elastic Sack. By Prof. B. Pierce, of Cambridge, Mass.

On some special Analogies of Structure in the Eastern Hemisphere of the Earth and the visible Hemisphere of the Moon, with conjectures as to the Structure and Appearance of those Portions of the Moon which are invisible. By Prof. Stephen Alexander, of Princeton.

On the Measurement of the Heights by Barometer. By Prof. E. Loomis, of New York.

On the Tides of the Western Coast of the United States, from observations at San Fransisco, California, in connection with the U. S. Coast Survey. By Prof. A. D. Bache, Supt., Wash'n.

On the distribution of percipitation in Rain and Snow on the North American Continent. By Lorin Blodgett, of Wash'n.

Remarks on Lithography and lithographic Transfers. By Lt. E. B. Hunt.

On the Method of finding the error of a Chronometer by equal altitudes of the Sun. By Prof. W. Chauvenet, of the U. S. Naval Academy.

On the distribution of Heat over the North American Continent, and the construction of its Isothermal lines. By Lorin Blodgett, of Washington.

On the Formation and mode of Development of the Renal Organs in Vertebrata. By Dr. W. I. Burnett, of Boston.

On the Formation and Functions of the Allantois. By Dr. W. I Burnett, of Boston.

Researches on the Development of the Viviparous Aphides. By Dr. W. I. Burnett, of Boston.

On the parallelism of the lower Silurian groups of Middle Tennessee with those of New York. By Prof. J. M. Safford, of Lebanon, Tenn.

On the Binocular Microscope. By Prof. J. L. Riddell, N. Orleans.

On the Histology of Red Blood. By Prof. J. L. Riddell, of New Orleans.

On the origin of Capillary Blood-Vessels. By Prof. J. L. Riddell, of New Orleans.

Investigations in Analytical Morphology, No. 1, Description of the Science. By Prof. B. Pierce, of Cambridge, Mass.

On some Relations of the Central Distances of the primary Planets, Satellites, and Rings of the Solar System of which Bode's Law would seem to be but an imperfect expression. By Prof. Stephen Alexander, of Princeton.

On Personal Equations in Astronomical observation. By Dr. B. A. Gould, Jr., of Cambridge, Mass.

A new method of securing uniform circular motion in the machinery used in receiving the registration of Astronomical observations of right ascension. By Prof. O. M. Mitchel, Cincinnati Obs.

Personal Scale of Astronomical Observers. By Prof. B. Pierce, of Cambridge, Mass.

On the comparative precision of the Electro-chronographic, or

American Method of Observation. By Dr. B. A. Gould, Jr., of Cambridge, Mass.

A singular case of internal fringes, produced by interference in the eye itself. By Prof. Joseph Lovering, Cambridge, Mass.

Account of Experiments on Sound. By Capt. Wilkes.

Mathematical Analysis of the Contact of Surface in Oscillating machinery. By Prof. C. W. Hackley, of New York.

On Cohesion of Fluids, Evaparation, and Steam Boiler Explosions. By Lt. E. B. Hunt.

Project of a Geographical Department of the Library of Congress. By Lt. E. B. Hunt.

On the Structure and Transformation of Oscillaria Aureliana. By Prof. J. L. Riddell, of New Orleans.

On the Effect of the Reclamation of the annually Inundated Lands of the Mississippi Valley upon the general Health of the country, and the navigation of that River. By Andrew Brown, of Natchez, Miss.

On the Structure and Affinities of certain Fossil plants of the carboniferous era. By J. S. Newberry, M.D., of Cleveland.

Notice of Bradford's Machine for separating Metals by their specific gravity. By Capt. Wilkes.

On some points in the History of Gordius. By S. N. Sanford, of Granville, Ohio,

On the Geological Age and Affinities of the Fossil Fishes which belong to the sandstone formations of Connecticut, New Jersey, and the coal field near Richmond, in Virginia. By W. C. Redfild, of New York.

On the Wheat Fly and its ravages. By R. Howell, of Nichols, New York.

The Conical Condenser, a telescopic Appendage. By Lt. E. B. Hunt.

On the primitive Form and Dimensions of the Asteroid Planet, the cause of the Instability of the same, and of the Varieties in the Orbits of the Asteroids. By Prof. Stephen Alexander, of Princeton.

Criterion for the Rejection of Doubtful Observations. By Prof. B. Pierce, of Cambridge, Mass.

Some errors peculiar to the observer, which may affect determinations of the declinations of the fixed Stars. By Prof. John H. Coffin, of the Washington Observatory.

New Formulas of spherical Trigonometry. By Prof. W. Chauvenet, of the U. S. Naval Academy.

Theory of the Action of Neptune upon Saturn. By Prof. B. Pierce, of Cambridge, Mass.

On the Limit towards which the series;

$$1 \;\dagger\; \frac{1}{1 \;\dagger\; p_2} \;\dagger\; \frac{1}{1 \;\dagger\; p_3} \;\dagger\; \frac{1}{1 \;\dagger\; p_4} \;\dagger\; \&c.$$

Converges for p=0. By Dr. Julius Friedlander, of Berlin.

On the Subordination of Atmospheric Phenomena, or the Position of the several Classes with respect to the primary Cause or initiatory Processes. By Lorin Blodgett, of Washington.

Strictures on the Mechanical explanation of the zigzag path of the Electric Spark. By Prof. O. N. Stoddard, of Miami University.

Theory of Molecular Forces. Explanatory of the gaseous, liquid, and solid conditions of matter. By Prof. J. L. Riddell, of New Orleans.

On the Winds of the coast of the United States on the Gulf of Mexico. By Prof. A. D. Bache, Supt. U. S. Coast Survey, Washington.

On the Velocity of transmission of Electric Signals along iron Telegraph wires. By Dr. B. A. Gould, Jr., of Cambridge, Mass.

Illustrations of Cohesion. By Prof. Joseph Henry, of Washington.

On a Modification of Soleil's polarising apparatus for projection. By Prof. Joseph Lovering, Cambridge, Mass.

On the Barometric Pressure in extreme Latitudes, and the existence of Belts of low Barometer in the Arctic Regions. By L. Blodgett, of Washington.

On optical Meteorology. By Professor Joseph Lovering, Cambridge, Mass.

On the Carboniferous Flora in Ohio with Descriptions of fifty new Species of Fossil Plants. By Dr. J. S. Newberry, of Cleveland.

The Artesian Well, Charleston. By the Rev. P. R. Lynch, of Charleston.

Account of the recent American Scientific Expeditions. By Prof. S. F. Baird, Washington.

On the Fossil Fishes of the Cliff Limestone of Ohio. By Dr. J. S. Newberry, of Cleveland.

On the Reproduction of the Toad and Frog, without the intermediate stage of Tadpole. By Dr. W. I. Burnett, of Boston.

On the Signification of Cell Segmentation. By Dr. W. I. Burnett, of Boston.

Description of a Plan for furnishing a fluid Mirror, to be used in a Reflecting Telescope. By Prof. George R. Perkins.

Several of these papers, especially those of Drs. Riddell and Burnett and Prof. Horseford, are of interest to the medical profession. We have only room in this number for an abstract from Prof. H's article on the fatal effects of chloroform. After alluding to the different opinions that have been entertained in reference to the cause of the bad effects of chloroform, and detailing some experiments, he says:

The Fusel oil of the apothecaries, treated with water and bleaching salt in all respects as if it were alcohol, with a view to the production of chloroform, gave a product nearly like pure Fusel oil in smell, and having a specific gravity in these several preparations of— 0,8236
0,8225
0,8224

While that of pure Fusel oil is, 0,8124. It gave of chlorine, 1,35 per cent when evaporated to dryness with water-lime, the chlorine in which had been previously determined. This was undoubtedly due to the chloroform derived from the trace of alcohol still present in the Fusel oil.

That such might have been expected as the result, will be evident when it is considered that Fusel oil is but slightly soluble in water, and would of course, from the ouset, float on the surface of the mixture.

Experiments made with alcohol to which was added impure methyl alcohol (wood spirit) gave good chloroform.

Experiments with the product of distillation resulting from the mixture of pure Fusel oil, water and bleaching salt, upon man and inferior animals, were made under quite varied circumstances.

A practising physician accustomed to the administration of chloroform, inhaled the vapor of this product for fourteen minutes, without any marked anæsthetic effect, or any other effect than slight irritation of the bronchial tubes.

Two rats, one full grown, were successively subjected to the action of this agent, poured upon cotton to facilitate evaporation, the tuft of cotton and the animal being placed on the bottom of a covered becker glass. The air was renewed from time to time with the aid of a bellows. At the end of an hour no anæsthetic effect had been produced upon the full grown rat, and at the end of forty minutes none on the smaller animal.—They were then exposed to the action of the vapor of chloroform, and in less than two minutes were insensible.

The experiment was repeated with kittens about a week old, with like results, except that they were longer in becoming insensible.

On a subsequent day two kittens were exposed to the vapor of the above body, each under a separate bell glass, while two others, in all respects similarly situated, except that the latter breathed merely confined air, for one hour, without its being apparent that the vapor had produced any deleterious effect. When taken out, all appeared quite alike so far as activity was concerned, or disposition to seek legitimate nourishment.

At a period several weeks later, the experiments were repeated with the same kittens, in the use of a fresh preparation of the above body, repeatedly distilled from chloride of calcium. There was in the course of an hour, an appreciable lethargic effect which was not so marked where confined air was alone inhaled, but in no instance attained such a degree that upon the removal of the bell glasses, the animals did not at once resume unimpaired, the possession of all its powers.

These experiments led to the conviction that Fusel oil, when treated as in the manufacture of Chloroform, substituting Fusel oil, is not changed, and of course, that the Fusel oil present in alcohol in the ordinary manufacture of chloroform does not yield a poison, which taken with the chloroform has produced the fatal effects.

While the Fusel oil vapor and the impure chloroform which Gregory had recognized, could be inhaled without difficulty, the article received from Dr. Currie, by its violent irritation, closed the glottis almost instantly.

Upon the presumption that the bad attribute was due to the mode of purification, a quantity of good chloroform was repeatedly distilled from concentrated sulphuric acid, and another from chloride of calcium. The products in both cases were perfectly good, and are so still, now nine months from the date of distillation.

Having tried alcohol of various degrees of purity and strength, and having subjected good chloroform repeatedly to different methods of purification, it remained to try different samples of bleaching salt with varying proportions of alcohol. Accordingly several varieties in the market were procured, and a series of experiments undertaken by Mr. Gould, of the Laboratory of the Lawrence Scientific School.

The combinatians of alcohol, bleaching salt, water, temperature, time and mode of distillation, made to meet the inquiry required fifty successive preparations of chloroform, the detailed results of thirty-one of which will appear in the official proceedings of the Association.

From these and the foregoing series of experiments, it appears—

1st. That good chloroform does not spontaneously change in a period of nine months, and perhaps longer.

2d. That the bad chloroform, containing free chlorine and hydrochloric acid, may be produced by using a bleaching salt of great strength with a quantity of alcohol disproportionately small.

3d. That the bad chloroform may be produced by receiving the distillate into water, so as immediately to withdraw the alcohol from the chloroform.

4th. That the bad chloroform may be produced by passing chorine directly into chloroform.

5th. That no formula for its manufacture can be relied upon as a guide, since bleaching salts vary in strength when derived from different factories, and vary with age. In the foregoing experiments the range is from 15 to 30 per cent.

6th. That quick lime added to the mixture does not promote the economy of manufacture.

7th. That the chlorine and hydrochloric acid of bad chloroform, as observed by Dr. Dwight, may be removed by agitation with a little alcohol.

8th. That the ill effects observed in the administration of chloroform are not due to the presence of chlorine as the irritation is such when it is attempted to inhale it, as to prevent inhalation altogether.

9th. That the ill effects are not due to any poisonous product arising from the action of bleaching salt on the small quantity of Fusel oil, in the alcohol employed in the manufacture of chloroform.

10th. That the ill effects are due to peculiarities of constitution or temparament of some patients, and in a few rare cases to want of attention or judgment on the part of the person administering it.

Death of Dr. Pereira.

We are permitted to extract the following reference to the death of this distinguished physician from a private letter to Dr. Duck of this city. The writer says: "Poor Pereria, his loss is felt by all; he was buried at the Kensalfreen cemetry, and was followed by the whole school of the London Hospital and also by between thirty and forty practitioners, many of them, including myself, coming a distance of between six and seven miles. Dr. Billing kindly took me in his carriage coming home, when I had the advantage of hearing his opinion as to the cause of death. Dr. B. thinks that when Dr. Pereria slipped on the back stair case of

the College of Surgeons, in addition to the rupture of the tendon of the left quadriceps extensor femoris, he also ruptured the two inner coats of one of the sinuses, at the origin of the aorta, and that on exerting himself to relieve his attendants while lifting him into bed, a fortnight afterwards, he ruptured the remaining coat and died from internal hemorrhage. His friends objected to a post-mortem examination, and it was not urged. A committee of four or five physicians are completing the second part of the 2d volume of the learned Doctor's Materia Medica, which Dr. Billing says is a perfect encyclopedia. The greater part was already finished and in the press." J.

Atlas of Pathological Histology. By Dr. GOTTLIEB GLUGE, Professor of Physiology and Pathological Anatomy in the Univercity of Bruxelles, &c. Translated from the German by Joseph Leidy, M.D., Pathologist to St. Joseph's Hospital, &c.; with three hundred and twenty figures, plain and colored, on twelve copper plate engravings. Philadelphia: Blanchard & Lea, 1853.

THE introduction contains tables of the weight and magnitude of the organs of the human body, both in their normal and abnormal condition. The first section of the work treats of the development of the elements of tissues. Section second treats of the elements of the tissues, combined inperfect or imperfect tissues, and arranged according to the processof disease. Section third is on the formation of the blastema. Section fourth, the histological metamorphosis of the blood. Section fifth, pyæma. Section sixth, gangrene. Section seventh, which closes the body of the work, consists of observations on histology.

We cannot speak too highly of the intrinsic value of this work or is mechanical execution by those unrivaled publishers Blanchard & Lea.

The profession are under obligation to Dr. Leidy for this translation, so indispensable to every medical man who wishes to keep pace with the progress of physiological and pathological science.

J.